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ABSTRACT

The state of vocational education and training (VET) in the following countries was examined: Armenia; Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, the Russian Federation, Turkmenistan, Ukraine, and Uzbekistan. The study focused on the following topics: social and economic developments since 1990; VET systems' development since 1990; and governance and management of VET. Key findings and conclusions were as follows: (1) the large role of the shadow economy in all the countries under consideration has resulted in a poor tax base and a poor record of collecting taxes that have in turn made it difficult, if not impossible, to increase the level of funding for public services, including VET; (2) the VET systems of the New Independent States and Mongolia require considerable upgrading and modernization if they are to be brought into line with converging international standards; (3) all reform attempts must be preceded by a balanced budget for VET, and attempts to legitimize the shadow economy should include appropriate training provision; and (4) major issues that must be decided include the role of lifelong learning, responsibility for funding VET, and the point in the reconstruction cycle when investment in fundamental research can be afforded. (The following items are appended: information on donor cooperation; diagrams and key data of the study countries' VET systems; and four data tables.) (MN)

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REPORT

Transnational analysis of vocational education and training in the New Independent States and Mongolia

European Training Foundation

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The European Training Foundation is an agency of the European Union which works in the field of vocational education and training in Central and Eastern Europe, the New Independent States, Mongolia and the Mediterranean partner countries and territories. The Foundation also provides technical assistance to the European Commission for the Tempus Programme.

This report was written by Ton Farla of the European Training Foundation.

REPORT

Transnational analysis of vocational education and training in the New Independent States and Mongolia

European Training Foundation

Introduction

This is the first comparative analysis (after 1990) of vocational education and training developments in the New Independent States[1] and Mongolia undertaken by the European Training Foundation. The report has been produced on the understanding that vocational education and training has an important role to play in the development of social, economic and democratic processes. The provision of information and analysis on vocational education and training and labour market developments comparable with other countries will help support decision making and reform.

Comparative analysis hinges on similarities and dissimilarities, which highlight critical issues for a single system or subsystem, or identify areas where common solutions may be possible and helpful. Generally, initiatives are taken because prospective co-operation among partners (client state and donors, co-operation among member states, co-operation with the European Commission) requires a greater degree of understanding of each partner's needs. Another reason is when a particular policy initiative is embarked upon and referring to the experiences of others becomes useful.

This report is intended to assist with responses to the question above, which can be summarised thus:

- what information do we have with regard to the context (economic and social) in which vocational education and training renewal, reform or reconstruction may take place?
- can we identify those common issues in the region which can be approached co-operatively and those specific to an individual country or area which need to be approached individually?
- what initiatives can reasonably be identified for priority intervention?

Given the complexity of the issue and the scarcity of information, this report does not claim to be definitive on all aspects of vocational education and training reform in the New Independent States and Mongolia. Instead, it attempts to highlight main trends and further challenges in and for vocational education and training reform.

The principle sources of information for compiling the report are the network of National Observatories, established and supported by the European Commission and the European Training Foundation since 1996. These National Observatories are operational in all the countries included in the survey with the exception of Tajikistan, which is therefore not represented in the report. The National Observatories have meanwhile developed expertise in the field of vocational education and training and links with the labour market. In cases where information was lacking or not complete, other data sources have been consulted. Statistical illustration in the case of individual countries and statistical reference in the case of transnational comparison support the text. As a consequence, it becomes possible for the reader to map the common and the differentiated patterns of development in the region. When examining data it should be borne in mind that the countries covered use different statistical methods and terminology and in some cases there is the lack of available data.

1 Countries eligible for the European Union Tacis programme are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan and Mongolia.

We hope that this report will prove useful especially to policy makers and experts involved in assistance with vocational education and training reforms in New Independent States and Mongolia.

The report contains different sections:

- The executive conclusions summarise the main lessons for country policy makers and project donors.
- Chapter 1 presents information and indicators on socio-economic developments in the transition countries. Labour market developments are reviewed, particularly in relation to the link with vocational education and training.
- Chapter 2 highlights developments in vocational education and training systems since 1990. It also addresses the problems of funding education systems, and their performance in a number of selected areas. The chapter provides statistical data to enable comparison among the different countries and in some cases with the countries of Central and Eastern Europe and the European Union (EU).
- Chapter 3 deals with vocational education and training policy and institutional arrangements. The chapter has been further divided into three sub-sections each addressing a specific theme.
- Section 3.1 outlines the changes in vocational education and training legislation policies, and provides examples of vocational education and training reform programmes.
- Section 3.2 is concerned with the management of vocational education and training systems, including the process of decentralisation and the role of the social partners.
- Section 3.3 deals with the anticipation of skills needs and the setting of vocational standards. Additionally, comments are made on the current information and research capacity in the countries under review.
- Annex 1 provides a short analysis on the subject of vocational education and training reform and the role of the international donors community.
- Annex 2 provides diagrams and key data from the countries' vocational education and training systems.

More detailed information on the state of vocational education and training reform in each country is available through the National Observatories' vocational education and training country reports and studies on specific aspects of vocational education and training reform. Specific reference should be made to the European Training Foundation's annual Key Indicators reports. These publications complement this report. Vocational education and training country and statistical reports as well as other publications of both the National Observatories and the European Training Foundation can be obtained from the National Observatories themselves, the Foundation's Information & Publications Department or the Foundation's web page at http://www.etf.eu.int.

Comments from readers concerning the content of this report are welcome and should be communicated directly to the European Training Foundation.

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Executive conclusions

Rationale

The focus of this report is to be able to make the case for sustaining and developing vocational education and training systems in the medium term, as part of investment in the education sector as a whole. This approach is particularly important for transition countries in a region experiencing economic difficulties or crises.

In the policy debate on the measures to increase competitiveness, growth and employment in a globalised economy, it has become increasingly important to develop a high quality workforce both in terms of education and training. This is a view reflected by the recent summits of the G8 countries and by the European Commission 1998 Employment Guidelines.

The central question is to what extent the countries, mapped here, have in any way succeeded in enhancing the skill levels of the workforce to meet the expectations that exist for meeting the goals of promoting economic growth and overcoming unemployment.

The report, then, is especially recommended to policy makers and vocational education and training actors in the New Independent States and Mongolia, to donors supporting reform in the region and to agencies in the European Union dealing with external aid especially related to labour market, unemployment and vocational education and training issues.

The case for finding the resources for vocational education and training in a period of economic difficulty

After the break-up of the Soviet Union, a large majority of the New Independent States remained economically closely linked to the Russian Federation. Many of the New Independent States themselves have strong economic inter-relationships. This introduces a risk of knock-on effects from one country to another. For example, the Russian crisis of August 1998 had an immediate, negative effect on the economies of countries that had strong relations with the Russian Federation. Budgets and capital accounts within the New Independent States suffered from the collapse of the Russian banking system and from the re-evaluation by foreign investors of the risk of financing projects in the region.

As a result of unemployment and low-incomes, many people are suffering from a strong decline in their standard of living and a high percentage of the population is living below the poverty line. For example, in Armenia, over half the population (54.7%) is estimated to be below the poverty line and more than a quarter (27%) below minimum nourishment levels. Continuing financial problems will cause further cuts in social spending resulting in increased poverty. As a result of growing social pressure, there is a risk of political instability.

In most of the countries the unofficial (shadow) economy is strongly developed, but this data is not reflected in official statistics. According to the National Observatory reports, the shadow economy makes up 50% of the entire economy in all countries. In Moldova and in Georgia, the shadow economy is believed to represent 60% of real GDP. Due to the poor record in collecting taxes, State budgets are now unable to finance many basic services to citizens. This includes payment of salaries to public employees, social protection arrangements and continued investment in education and training, especially in vocational education and training.

Because of the low tax base and the poor record of collecting taxes, it is difficult, if not impossible, to increase the level of funding for public services including vocational education and training. Budget cuts pose a serious threat not only to plans for modernisation including the purchase of new textbooks and new equipment, but also to the ability to meet current running costs such as salaries and maintenance of buildings.

By contrast, vocational education and training has become central to EU economic policy and is considered to be an important instrument in the fight against unemployment. It is accepted that economic growth and employment are closely related to the qualification level of workers; consequently vocational education and training has become an area of substantial investment. If the New Independent States and Mongolia are truly interested in bringing their systems into line with converging international standards then considerable effort into upgrading and modernising training systems is needed. This presupposes the political will to do so (as in the case of Uzbekistan) and the identification of mechanisms (the case of Moldova) to have a balanced vocational education and training budget (the means to increase income and reduce costs).

There are, in the year 2000, some signs that many of the countries are now succeeding in stabilising their economies and achieving some (albeit in many cases limited) economic growth. Inflation rates are relatively under control with the exception of Belarus (294% in 1999) and currencies are strengthening.

If a policy priority is to sustain and hopefully develop a medium-term vocational education and training capacity in anticipation of improved economic circumstances then:

- such a policy case has to be made and accepted by government (this implies a policy and strategy (green paper) component. It also pre-supposes inter-ministrial co-operation in drafting the strategy.
- reform recommendations require, as a precondition, a balanced budget for vocational education and training. This implies an audit of existing financial practices and the ingredients (both income generation and cost savings) for a phased-in balanced budget for vocational education and training. Without a balanced budget there can be no reform.
- attempts to legitimise the shadow economy should include appropriate training provision. One means of bringing shadow activities back towards legitimacy, particularly if they comprise over 50% of the economy, is the growing need for training. Both the need and its provision are part of the process of bringing the grey economy out of the shadows.

Who decides what and at which level?

Economic difficulties and the subsequent financial measures introduced have important structural and organisational consequences in each country and this is one of the main reasons (albeit not the only one) that is driving vocational education and training systems towards **decentralisation** and **institutional autonomy**. Most governments find it difficult to sustain entire vocational education and training sub systems (the same is also the case in OECD countries) on their own. This implies not only changes in financing, organisation and structure but also professional processes. Schools will, in future, be forced into more commercial activities but will also have more say concerning curricula. Governments while losing financial responsibilities will nevertheless wish to retain a steering role on standards and qualifications.

Decentralisation is also seen by some countries as a means of overcoming the old command lines within the system, as well as a prerequisite for encouraging bottom-up reform and making vocational education and training more responsive to local labour market needs. However, despite the fact that countries like the Russian Federation, Moldova, Kazakhstan and others have made progress in the decentralisation of power to regional, local and institutional level, responsibilities and competencies of the regional administrations are still not well defined and often executed in the old management paradigm.

In the overall context of decentralisation, there is a strong need to redefine the responsibilities of actors: government, region, schools, social partners trainees and parents. New management systems are required for institutions, new leadership styles, and the development of different working relationships with superiors and colleagues. This in turn requires ongoing management training and retraining. It also requires the establishment of institutions for the processes initiated.

The redefinition and transfer of responsibilities requires not only strategic consensus but the financial and human resources to carry them through. On one hand neither requirement yet exists; on the other, the transfers of responsibility are happening *de facto* because the State does **not** have the means to sustain its traditional role. In Russia, regional education officers are handling decentralised powers without legal authority and the necessary financial means from the State.

A certain degree of caution is required from advisers since an over rapid decentralisation (Turkmenistan) may leave the system in terminal turmoil while a gradual approach maintaining central control (Uzbekistan) may maintain stability.

- ***The key issue is how far decentralisation is inevitable (either for political or resource reasons) and how well it can be managed even if it is inevitable.***
- ***Reform and renewal projects will require built in institutional and human resource capacity building components to respond to the knock on consequences of financial renewal.***

Vocational education and training in the context of overall education

In the transition countries there is generally a strong percentage swing away from vocational education and training towards **general education** caused by an interaction of factors such as:

- the irrelevance of traditional narrowly-based skills in a changed and changing economy;
- the uncertainty of future skill needs (accompanied by lack of local and national forecasting mechanisms);
- the need for adaptability and flexibility hence a concentration on core skills;
- the lack of prestige (and even understanding) of vocational education and training.

In transition, given the uncertainty of economic and market developments, there is a debate as to whether investment in general education might well have a better long-term pay off both for individuals and the economy. However, experience in the OECD countries has made clear that vocational education and training *needs to make a specific case for its contribution to the economy.*

In the New Independent States and Mongolia the financing of vocational education and training is very low compared with general education. In light of significant financial constraints and the legal obligation to provide compulsory education, lack of funding has particularly hit vocational education and training because the unit costs involved compared with general education are much higher. Nevertheless, a positive development can be observed in the last few years with countries like Uzbekistan, Moldova, the Russian Federation and Kyrgyzstan attaching more importance to vocational education and training.

- ***There is, at least, a need to rethink the vocational education and training system and its role in the different countries. Abandoning or diminishing vocational education and training would have grave consequences and create prospective skill shortages. ILO studies demonstrate the importance of a developed and developing skilled workforce.***

This is particularly true for **continuing education and training**. For the unemployed this has mainly been the responsibility of employment services, whereby training is determined by the immediate demand of the labour market. It has not been established to meet longer-term needs. In-service training, as such, has also traditionally been very much a matter for companies, given that many State companies are now largely defunct, privatised or under threat. Employers in the past decade have however largely opted out of training provision, which constitutes an important gap in the vocational education and training policies of all the countries in question. Continuing training for the employed is carried out either by public or private vocational schools or by companies themselves. In the private sector a market has become established through the rise in individual demand (languages, computer skills, business administration etc). In transition countries where there has been no central reform of vocational education and training, the market has responded to individual demands for upgrading and requalification.

Demographic trends have consequences for education and training needs. In particular the low birth rates in the Russian Federation, Belarus and Ukraine indicate that in the near future continuing training will grow in importance because many workers need to be trained or retrained in order to adapt to evolving skills requirements.

Despite the strong need for training and retraining of the work force, continuing training has not been given much priority. Countries have not developed a new concept while the historic system of continuing training and in-company training has barely survived due to the reasons given above. A

large part of the technical and material base of the vocational education and training has been abolished at a time when training might optimistically have been intensified for adjustment to new market economic circumstances. As a result, continuing training is fragmented.

- ***A major question for reform agendas is the formulation of 'lifelong learning in action'. Conceptually and practically this has become a reform issue for OECD ministers of education and employment. For countries undertaking reconstruction it offers an opportunity to respond to the needs outlined above; to undertake an integrated review of education provision and opportunities; in the case of the New Independent States to create appropriate institutes for newly developed processes.***

- ***Whether the responsibility for initial and continuing vocational education and training is shared between ministries of education and labour or concentrated within one ministry, there needs to be a common formulation to provide a holistic concept for legislation.***

For education as a whole and vocational education and training in particular, teachers have not been trained to deal with curricular and pedagogical reform. In addition they, unsurprisingly, are not proactive since they are poorly paid. Inevitably they also lack experience in building a democratic system of school management. These and other factors inevitably delay the introduction of new subjects and educational methodologies and technologies into the educational process. However, investment in **teacher training** demands a level of commitment which OECD countries have had to approach over decades. International donor organisations, such as the World Bank, are able to make relatively large investments (via loans) over long-term periods, usually more substantially in general education teacher development.

- ***Given the levels of investment needed, vocational education and training donors may be required to join forces with the appropriate banks and others (see below) to integrate teacher and management development for the secondary and post secondary sectors.***

Under the Soviet system, research institutions were located in every republic, with a number of "strongholds" in the Russian Federation, Belarus, Uzbekistan and Ukraine. With the exception of these countries, research institutes deteriorated in most of the newly independent countries as a result of political and financial reasons. The absence of sufficient **research capacity** and in particular **applied** research, is a negative factor in the reform of training systems in most of the New Independent States. The role of research in developing education is to provide decision makers and practitioners with reliable information and knowledge. The research community may also serve as an important partner in the dialogue concerning the policy direction of ongoing reform. At the same time, research may provide authorities and the public with valuable information on the progress of reform and the overall condition of the education system. However, with some exceptions, most countries lack research institutions and the capacity to carry out both applied and comparative research.

However, even in countries where research institutes are in place, activities are hampered by the lack of reliable specific information. Policy and decision makers require reliable data. However there is a distinction between information gathering for the labour market and fundamental educational research with different time cycle requirements.

This lack of data and the capacity to interpret data hampers educational planning in all the countries concerned.

- ***The question for the reform agenda is at which point in the reconstruction cycle can investment in fundamental research be afforded or can one afford to neglect it?***

The labour market

Social partnership

Many countries do not involve key stakeholders such as the social partners in the development of vocational training policy, which hampers the establishment of consensus on vocational education and training reform (for example the interrelation of skill levels and qualifications with work structures and salary levels). However, in most countries a start has been made to establish conditions for the establishment and operation of representative organisations of employers and employees in order to implement the concepts of democracy, pluralism and freedom of association.

A plurality of unions can be observed which are organised on the basis of occupation, industrial or economic sector, but also as territorial units at different levels. The unions are then organised into federations or confederations, which mainly function as representative bodies for social partnerships at national level. A plurality of employer associations are in turn organised into federations and confederations representing their member associations in partnerships at national level. Tripartite structures do exist but they are in early stages of development. It is still difficult to establish common ground between unions and employers. One has to remember that it took decades to establish such structures within EU member states.

- ***Nevertheless, the establishment of sustainable regional and national tripartite structures associated with cyclical labour market analysis connected to a responsive vocational education and training system for long-term investment is required.***

Standards

A major role for the social partners is the establishment of *standards*, which have to be understandable for all stakeholders (employers, teachers, students, parents, policymakers etc). Standards need to start with the definition of employers' specifications with the assistance from employers. Then the learning requirements should be defined and finally the requirements for assessment.

In the search for a simplified approach it is necessary to return to the fundamental purpose of a vocational education and training standard – to link educational provision to the needs of the labour market. To achieve this, three simple questions can be asked – these questions could be referred to as the 'minimum components'. For each question, a specification can be developed as shown in the table below.

- *What does the student need to be able to do in employment?* = **The employment specification**
- *What does the student need to learn to be effective in employment?* = **The learning specification**
- *How will we know what the student has learned and is able to do in employment?* = **The assessment specification**

Co-operation between schools and companies at local level

Under the Soviet system, there was a close link between (State) companies and schools. The costs for vocational education and training were shared between the State and State enterprise, and training took place within a kind of dual system where schools were often part of the State enterprise. With the disintegration of the Soviet system, this close link deteriorated or even disappeared leaving schools with insufficient financial resources, lack of training placements and uncertainty concerning their role under the new system.

Structural co-operation between vocational education and training schools and companies is still in the initial phase, as many State companies stopped their production due to financial constraints and shortage of raw materials. However, more and more vocational education and training schools are currently taking the initiative to re-establish contacts with companies. Often this co-operation leads to an agreement in which the vocational education and training schools provide training for specific functions at request of the company. For example in Mongolia, the main cashmere factory (known as "Goby") has an agreement with the Production and Vocational Centre of Light Industry in which the institute provides training and the factory offers jobs. In Kyrgyzstan, Advisory Councils have been set up that include representatives from vocational education and training schools, employers and trade unions. In countries like Kazakhstan and the Russian Federation, vocational education and training schools often take over part of the production process from companies and the income generated is used to cover the running costs and infrastructures.

- ***Attention should be given to the fact that in a modern market economy, many skills require "core competencies" that cannot be ascribed to a particular sector or occupation. Moreover, there is a need to identify future skills that also include non-vocational education and training qualifications.***

Legislation

In many countries vocational education and training legislative reform has started only recently, and is far from complete, although the process is always ongoing. Co-ordination among those responsible for the development of legislation covering different policy areas is often lacking. Due to this the overall legislative framework is lacking coherence and consistency (for example, the interrelation of public administration, financial regulations and education legislation).

Two phases can be observed in the reform of educational legislation. The first phase is an immediate response to the onset of independence (democratic values for example), whereas the second phase is more an attempt to formulate a comprehensive education reform.

Legislation may be the end and not the beginning of a process. In some cases it is the least important aspect. It exists to enable agreed policy and strategies to be put into effect. The building blocks of a vocational education and training system: *mission; labour market tools; location of decision making; roles and responsibilities; standards; curricula; finance; institutional homes* have to be part of a policy and strategy that is agreed by all the key actors involved. At that point only, should the question be asked: *is enabling legislation needed to carry this through?* Most legal experts would answer 'no' on the basis that it might be simpler to keep the existing legislation and change the regulations. In the case of Moldova however the approach chosen resulted with **'the Vocational Education and Training Reform Act'**. This was designed to give weight and importance to the processes involved; to simplify existing complex regulations and, as the title of the proposed Act suggests, to carry out reform.

- ***For an education reform project, it is necessary to ensure continuity from the initial policy and strategy recommendations stage to legislative drafting stage. This in particular should involve all relevant ministries and relevant constituencies including the social partners and the Ministry of Justice.***

Donor co-operation

Given the agenda for change listed above no single donor can provide the resources and coherence necessary. Consequently co-operation among donors is required. Donor co-operation and co-ordination is not easy. Donors have quite different ideologies, funding philosophies, administrative and funding procedures. To make things more difficult vocational education and training is a complex sector difficult even for experts to comprehend and vocational education and training itself has a low profile for politicians since normally they have no direct experience of it.

Vocational education and training has a variety of ministries responsible for its execution including those of education, labour, economy, finance, etc. Vocational education and training is also a wide field for co-operation given that it includes the labour market and responses to it, issues of decentralisation and vocational education and training school autonomy together with the democratisation of decision making. Vocational education and training overlaps with general education, social policy and technological change. However, both donor co-operation and support are possible if the following criteria are met:

In defining the possibilities of co-operation with government, individual donors are looking for:

- clear policy and strategy from government; clear priorities; the organisational and technical means to carry them out; the political will to implement policies; components which fit the funding philosophy and means of individual donors.

In defining the possibilities of co-operation among themselves donors are looking for:

- an understanding of government policy and priorities; a useful exchange of information; concrete possibilities of co-operation between government and donors over the short to medium term.

Chapter 1
Social and economic developments since 1990

Introduction

The key issue in the education policy of the Soviet Union was to guarantee that young people would have some specific vocational qualification for a job before entering the labour market. Vocational schools and enterprises shared the responsibility for initial and continuing training. Labour and its use was centrally planned, based on the human resource planning of individual enterprises and regions within the country. The vocational education and training school was the agent of the company helping to train a workforce according to the needs of the latter. Industrial activities were concentrated by sector in the different Soviet republics, leaving some of the now independent States ill prepared for developing their economic potential. The crafts and service sectors, commercial and financial services had remained underdeveloped in the Soviet period.

Following the break up of the Soviet Union, the traditional well-established links between schools and large State enterprises were dismantled, as the latter closed down their training facilities due to a lack of resources. This has subsequently created severe problems in the restructuring process for both the economy and the training sector. A market economy sets high requirements for the work force because industry becomes increasingly confronted with rapid technological changes and shorter production cycles. Workers need to be flexible and mobile and are expected to be highly skilled and able to handle complex tasks. Strong links are therefore needed between the training sector and employers to avoid skill mismatches and shortages.

Many donor interventions concentrate on these aspects of managing change but it should be borne in mind that they reflect the converging value systems of the OECD countries and their introduction to countries in very different stages of transition. Macro-economic research in OECD countries confirms that high skill levels within the work force contribute to individual welfare (higher salaries) and economic growth. However, raising educational attainment levels is an expensive and slow process as people stay longer in education and training. Most OECD countries show a growing participation rate in post secondary and higher education and the expansion of training provision during a working life, anticipating the changing demand for better-qualified workers[2]. Retaining people in training is one of the biggest problems countries have in a transition phase, given that the previous vocational education and training systems were based upon the close link between State enterprises and the training system. Big State enterprises themselves were responsible for the organisation and implementation of training programmes for their own employees. Because of economic problems, provision for this training has not been properly maintained. Financial constraints on State budgets had a negative impact on the provision for vocational education and training. Although countries with a higher GDP generally spend more on education and training than countries with a lower GDP, the differences in spending in absolute terms tend to be very large among the countries.

2 See Chapter 2.3. on raising attainment levels in OECD Publication on education policy analysis 1997

Socio-economic developments

After the break up of the Soviet Union, economic parameters changed drastically, particularly as the historical emphasis had been on heavy industry and manufacturing. The new national governments had to review their financial support to large State enterprises, which worked inefficiently, were overstaffed and lacked modern technologies. In order to stimulate economies and to attract foreign investment, most countries started a privatisation process. Overall, privatisation had a rather quick start. For example, in Mongolia, over 50% of State companies have already been privatised and provide more than half of the country's GDP. In the Russian Federation the private sector has a relatively large percentage share. On the other hand countries like Azerbaijan, Belarus and Turkmenistan are still at the beginning of the privatisation process (See Table 1).

Table 1 The proportion of private sector employment in industry 1995

Countries	Percent
Armenia	18.7
Azerbaijan	5.8
Belarus	2.6
Kazakhstan	40
Kyrgyzstan	56.1
Moldova	50.3
Russian Federation	26.2
Turkmenistan	15.2
Uzbekistan	52.1

Source: OECD 1997

Although market conditions differ very much among the countries, in all those under economic and social transition the market mechanism functions in a different way to the EU or other western countries. It is therefore important to realise that the concept of privatisation is placed within a different context vis-à-vis western countries. For example the vast majority of Russian industrial firms are of mixed ownership. This is, according to "The Economist Intelligence Unit research report for 1999" particularly the case with the privatisation of State enterprises in strategic sectors such as mining, public transport (air line and railway companies, shipping) and energy. Gazprom, the gas monopoly and Russia's biggest company has a majority private ownership, but operates more or less as an arm of the government. Many privatised companies went bankrupt, because managers lacked the necessary management skills and continued to manage the firms under the old system. In some cases there was no incentive to modernise and continue production, but more incentive to proceed to the liquidation of capital assets.

After the break-up of the Soviet Union, a large majority of the New Independent States have, in economic terms, remained closely inter-linked with the Russian Federation. In addition, many of the New Independent States have strong economic inter-relationships. This introduces a serious risk of knock-on effects from one country to another. For example the Russian crisis of August 1998[3], had an

3 The Russian crisis of August 1998 was fuelled by the announcement of the government of a 90-day moratorium on external debt repayments and the devaluation of the rouble.

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immediate, negative effect on the economies of countries that had strong relations with the Russian Federation. New Independent States budgets and capital accounts suffered from the collapse of the Russian banking system and from the re-evaluation by foreign investors of the risk of financing projects in the region. The efforts of some countries to defend the value of their currencies have exacerbated this critical situation (Source: EU Tacis Programme).

All countries had difficulties in developing new markets outside the New Independent States because the quality of their products was and still is too low to compete in international markets. Consequently, the exports of most countries are dominated by raw materials. The European Union is the New Independent States' most important western trading partner, having taken more than € 26 billion worth of imports from the New Independent States in 1996. This accounts for more than 33% of the New Independent States' total exports. EU imports from the New Independent States have grown by more than 33% since 1989 and EU exports to the New Independent States reached a growth rate of over 25% over the same period. The New Independent States as a group is running a big trade surplus with the European Union (Source: Tacis Programme).

Trade between the New Independent States

Currently 58% of exports from Moldova go to the Russian Federation, and the rest to Belarus, Kazakhstan and Ukraine. For the Ukraine, the leading markets are the New Independent States with 54.1%, followed by the Russian Federation with 38.7% and European Union with 10.9%. In Kazakhstan and Belarus, respectively 42% and 47.8% of exports go to the Russian Federation. For the Russian Federation, trade outside the New Independent States is more important and exceeds trade within the New Independent States. In 1997, 32% of Russian exports went to the European Union, and 19% to the New Independent States. Russian producers prefer trade with countries who pay in hard currency since the New Independent States have difficulties in paying their debts.

Source: National Observatory reports

Macroeconomic indicators show that industrial and agricultural output dropped significantly between 1990 and 1996. The biggest drop occurred between 1990 and 1994, as a result of the onset of economic reforms. The dynamics of the macroeconomic situation, in 1996, are presented in the table below. The table illustrates the severity of economic depression in the New Independent States (see Table 2).

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Table 2 ***Macroeconomic indicators of the New Independent States in 1996 (1991=100)***

Macroeconomic indicators of the New Independent States in 1996 (1991=100)				
Country	**GDP**	**Industrial output**	**Gross agricultural output (all types of firms)**	**Fixed capital investment (all sources of financing)**
AZB	43	42	55	97
ARM	62	51	125	4[1]
BR	65	62	79	33
GEO	29	23	111	3[2]
KAZ	56	49	60	11
KYR	58	36	68	56
MOL	43	46	64	14
RF	61	51	65	30
TME		73	71	174[2]
UKR	47	52	69	23
UZB	83	104	84	56
1 = 1994, 2 = 1993				

Source: The Russian Economic Barometer, Vol VI, no 1/1997, Russian Academy of Science Institute for World Economy and International Relations

GDP figures should always be interpreted with caution; non-monetary outputs can distort them. Differences in GDP growth rates among the countries can be attributed to various factors, including the availability of economic resources, differences in infrastructure, economic strategies and privatisation.

In most of the countries the unofficial (shadow) economy is well developed, but this data is not captured in official statistics. According to reports produced by the Foundation's network of National Observatories, the shadow economy is responsible for up to 50% of the entire economy in all countries. In Moldova and in Georgia the shadow economy is believed to represent up to 60% of real GDP. Because of the non-collection of taxes, State budgets are unable to finance many basic services to citizens. This includes payment of salaries to public employees, social protection arrangements and continued investment in education and training, especially in vocational education and training.

There are now signs that most countries are succeeding in stabilising their economies and achieving economic growth. The inflation rate is, with exception of Belarus (294% in 1999[4]) under control, and currencies are hardening. In Georgia GDP increased between 1996 and 1997 by 27%. In Armenia GDP increased in the same year by 12.5%, in Azerbaijan 6.6%, in Uzbekistan 4% and in Kazakhstan 3%. According to the International Monetary Fund projections for the year 2000, economic growth is foreseen in most of the countries. In Moldova the GDP growth will increase from -8.6% in 1998, and -5% in 1999 to 1% in 2000. In Kazakhstan, GDP growth will increase to 3% and in the Russian Federation, 2% growth is expected in the year 2000. All the other countries show a similar trend, with the exception of Turkmenistan.

4 Source: Ministry of Statistics and Analysis Belarus

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Kyrgyzstan

Small and medium-sized businesses have become a crucial part of the country's economy and have achieved more political, social and economic importance. According to official statistics, 8,213 small and medium-sized enterprises, 57,487 farming associations as well as 941 self-employed individuals are currently functioning in the republic (National Statistical Committee, 1999). In comparison with 1998 the total number of small and medium-sized business entities during the first nine months of 1999 increased by 12,900. The number of those employed in the small and medium-sized business sector totalled about 1 million individuals. The small and medium-sized enterprise (SME) sector is a very important part of Kyrgyzstan's economy: the total value added in this sector over the first nine months of 1999 was Soms 11,135,500 million, or 34.2% of GDP. During the last five years the share of SME output as part of GDP increased almost threefold, and the number of employed increased by 746,900, or 3.8 times.

Source: National Observatory Kyrgyzstan.

Labour market developments

With the collapse of the Soviet Union, the larger internal market disappeared and industry had to compete on international markets. Global markets are characterised by high quality standards, low prices and strong competition. Industry was not prepared for this, and the demand for products decreased. Practically all sectors of industry in all the New Independent States and Mongolia had to reduce the number of employees or send them on undetermined leave. In all countries the labour force in the agriculture sector declined significantly, manufacturing sectors remained more or less on the same level, although there are differences among the countries. The service sector increased in all countries, in particular because privatisation and new initiatives were introduced (see Table 3).

Table 3 Distribution of total labour force by sector (percentages)

	Agriculture		Industry		Manufacturing		Services	
	1980	1997	1980	1997	1980	1997	1980	1997
ARM	21.2	14.8	42.9	43.0	26.7	37.7	35.9	42.1
AZB	34.7	28.0	28.5	28.9	14.0	13.5	36.8	43.1
BR	25.8	14.1	38.4	42.0	26.5	29.7	35.8	43.9
KAZ	24.4	20.4	31.7	31.4	15.9	14.7	43.9	48.2
KYR	33.7	30.9	28.8	25.1	16.2	13.7	37.5	44.0
MOL	43.2	23.1	26.1	33.6	17.7	20.3	30.7	43.3
RF	16.0	11.5	43.7	39.8	27.8	23.7	40.2	48.8
UKR	24.8	15.0	39.3	40.2	27.2	28.7	35.9	44.7
UZB	39.8	31.7	26.6	24.2	12.2	12.4	33.6	44.1

Source: World employment report 1998-99 ILO 1998

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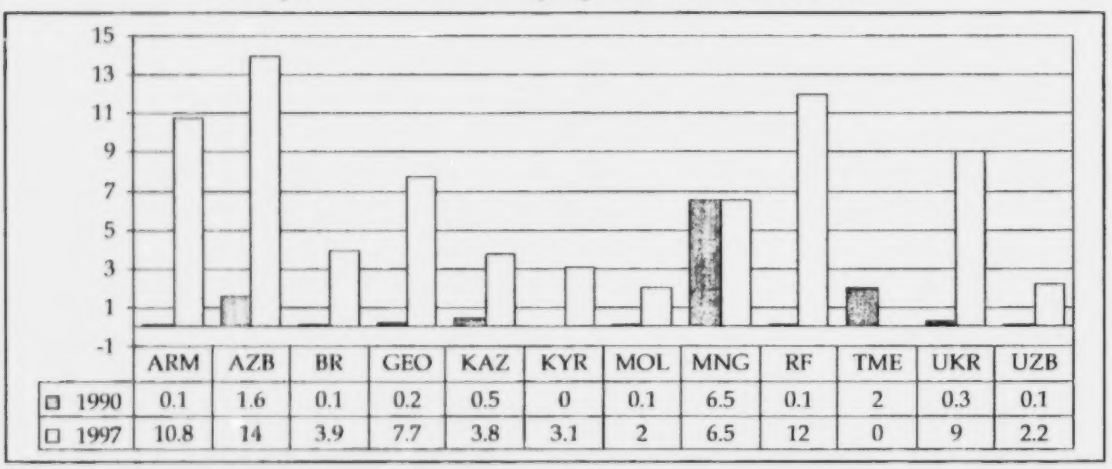
The relative stability of the labour force in heavy industry and manufacturing is a result of State subsidies and tax breaks granted to State companies in order to prevent their closure and to avoid further unemployment. The new private sector cannot absorb the entire displaced workforce from the State sector.

A changing concept of labour

In the Soviet Union a Tayloristic concept of labour was applied, which amounted to a maximum division of standardised tasks. This approach is in strong contrast with the socio-technical production concept that has been introduced over the last few years in most modern market economies. A minimum division of complex tasks is replacing standardised tasks, with employees having more responsibilities linked with more competencies and less routine. This concept creates more flexibility in production, increases the quality of products, and enhances the innovative capacity of companies. Modern production technologies enable enterprises to adapt themselves quickly to new demands of the market. The consequence for vocational education and training is to ensure that trainees possess generic skills and attitudes that are sufficiently flexible when entering the labour force.

With the exception of Georgia, in all countries, unemployment hit those with a lower level of education; technicians or professionals suffered less. In the Russian Federation, Moldova and Kyrgyzstan unemployment went up more dramatically than in other countries. Azerbaijan suffered very much from unemployment, the country lost 300,000 jobs and has 1.6 million internally displaced people as a result of the Nagorno-Karabakh conflict (see Graph 1). Unemployment does not officially exist in Turkmenistan but there is a growing number of people looking for a job who are not considered unemployed.

Graph 1 Total unemployment in 1990 and 1997



	ARM	AZB	BR	GEO	KAZ	KYR	MOL	MNG	RF	TME	UKR	UZB
1990	0.1	1.6	0.1	0.2	0.5	0	0.1	6.5	0.1	2	0.3	0.1
1997	10.8	14	3.9	7.7	3.8	3.1	2	6.5	12	0	9	2.2

Source: National Observatory.

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The unemployment figures for Graph 1 have to be interpreted in relation to developments over time and do not necessary reflect the real situation. The figures from Belarus, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Turkmenistan and Uzbekistan show the official statistics and do not comply with the ILO definition of unemployment. The real unemployment rates are much higher, but it is difficult to get hold of reliable data. National statistics are often incomplete, not all countries organise regular base household surveys and not all apply international standard classifications. Many people do not bother to register their unemployment or for various reasons cannot register themselves. They may be receiving delayed salary payments or be undertaking a forced leave of absence. These factors make it difficult to make strong statements and to compare data. For example in Armenia, 82% of the unemployed are not officially registered, and about 75% of the employed are underemployed (source: Armenian National Observatory). In most of the countries people are suffering from officially enforced holidays whereas in Turkmenistan, officially unemployment does not exist.

ILO standard definition of the unemployed

The "unemployed" comprise all persons above a specified age who during the reference period were:

(a) "Without work", i.e. were not in paid employment or self-employment;

(b) "Currently available for work", i.e. for paid employment or self-employment;

(c) "Seeking work", i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment.

The specific steps may include registration at a public or private employment exchange; job application to an employer; checking at work sites, farms, factory gates, market or other assembly places; placing or answering newspaper advertisements; seeking the assistance of friends or relatives; looking for land, building, machinery or equipment to establish own enterprise; arranging for financial resources; applying for permits and licences, etc.

The standard definition of unemployment given above may be applied by relaxing the criterion of seeking work in situations where the:

- Conventional means of seeking work are of limited relevance;
- Labour market is largely unorganised or of limited scope;
- Labour absorption is, at the time, inadequate; or
- Labour force is largely self-employed.

Source: ILO Resolution concerning economically active population, employment, unemployment and under employment. (October 1982)

In particular, between 1995-1997, the unemployment rate of young people (under 25) went up faster than the unemployment rate of elderly people. For example the unemployment rate of young people in the Ukraine grew during these years from 14% to 23%, in the Russian Federation from 19% to 23% and in Kazakhstan from 4% to 6%. The increase in unemployment might be attributed to the dropout rate increasing sharply (in particular in vocational education and training) with and more youngsters deciding to follow general education. As a result, more young people are entering the

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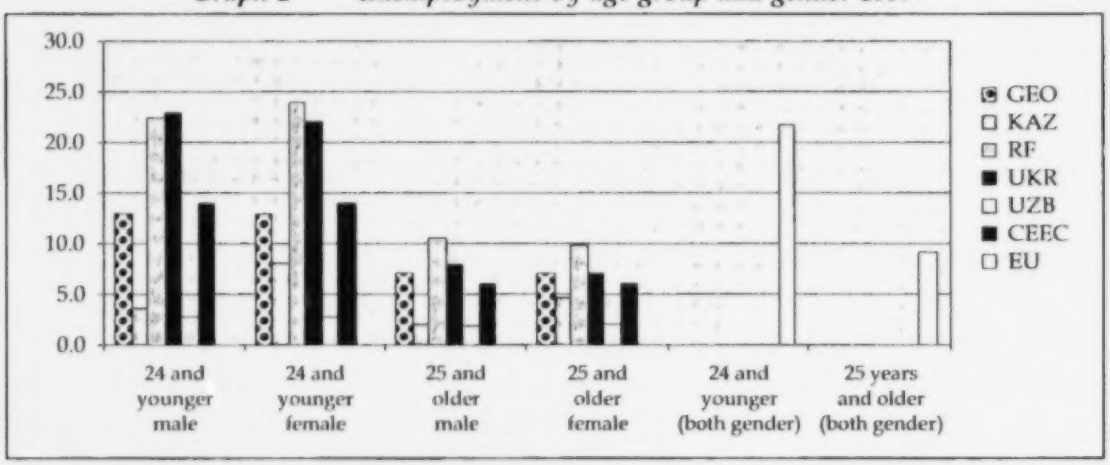
labour market without the professional qualifications and skills required. Companies that need workers with specific skills do not expect the training system to deliver the right qualified labour force, and often find it easier to attract unemployed experienced workers. In addition, job creation within the private sector is still at a rather low level, and does not provide sufficient job opportunities. In European Union and Central and Eastern European Countries, young people (below 25 years of age) have higher unemployment rates (CEEC 14% and EU 19%) than the elderly people (25 years or older) (8% respectively 8.3%). In the Central Asian and Caucasian countries, women are more affected by unemployment than men. This is in contrast with Georgia, Russia and Ukraine where women show lower unemployment rates or rates almost equal to those of men (see Graph 2).

Graph 2 Unemployment by age group and gender 1997



Source: European Training Foundation, no comparable data available from other countries.
EU Source: Eurostat.

Economies under transition require a work force with enhanced skill levels and with the capacity for adaptability and flexibility to increase the efficiency and productivity of companies. Not only higher skills are needed, but also different skills and broader competencies to adapt quickly to a rapidly changing environment. Physical labour is becoming less important than knowledge-based work using interdisciplinary skills and competencies. Industrial restructuring needs to be supported by a responsive training system.

When reviewing unemployment rates, it is important to realise that there are many factors, which determine unemployment. However, in most OECD countries the education level influences unemployment. In the EU member states, in 1998, the unemployment rates of low educated (ISCED 2) was about 22% whereas the unemployment rate of youngsters with a higher level of education (ISCED and higher) was about 14% (source: CEDEFOP). This trend can also be observed in the New Independent States, where, apart from Georgia, people with a high educational attainment level have a lower unemployment rate than lower qualified people (see Graph 3).

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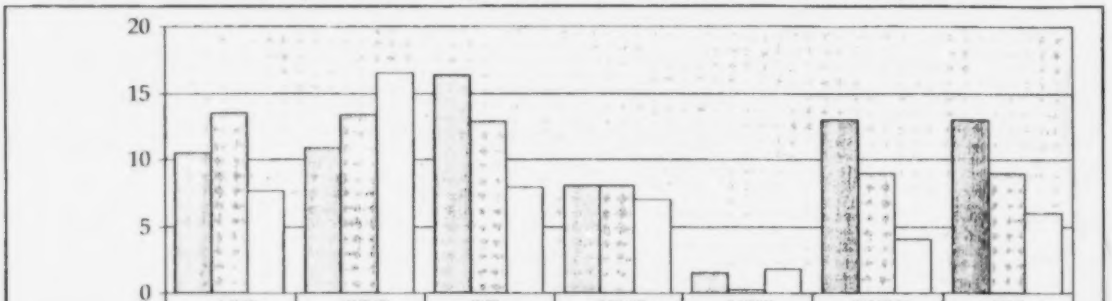
Graph 3 ***Unemployment rates by educational attainment of 25-59 year olds, 1997***



	AZB	GEO	RF	UKR	UZB	CEEC	EU
ISCED 0-2	10.5	10.9	16.3	8	1.5	13	13
ISCED 3	13.5	13.4	12.9	8	0.3	9	9
ISCED 5-7	7.7	16.5	7.9	7	1.8	4	6

Source: European Training Foundation. No comparable date is available from the other countries, EU.
Source: Eurostat 1998.

The reason why in Georgia individuals with a high level of education have a higher unemployment rate could be attributed to the fact that the country lost much employment in the non-production sector, where traditionally people with a high education level found employment.

As a result of unemployment and low-incomes, many people suffer from a strong decline in their standard of living and a high percentage of the population is living below the poverty line[5]. For example in Armenia over half the population (54.7 %) is estimated to be below the poverty line and more than a quarter (27%) below minimum nourishment levels. Continuing financial problems will cause further cuts in social spending resulting in increased poverty. As a result of growing social pressure, there is a risk of political instability.

Demography

The Soviet Union was a multi-cultural society and people from the different ethnic groups lived and worked in all parts of the Union. Since the dissolution of the Soviet Union, many citizens went back to their own now new independent countries. Although the Russian Federation had over one million immigrants in 1994, many ethnic Russians living and working in the newly independent republics appeared reluctant to go back. Indeed some of the New Independent States still have a significant Russian population. Many who initially left have subsequently returned (see Graph 4).

5 An indicator of the living standards in a country is GDP per head, which is calculated by dividing a country's GDP by its population. The figure is usually converted into US dollars in order to allow comparisons between different countries.

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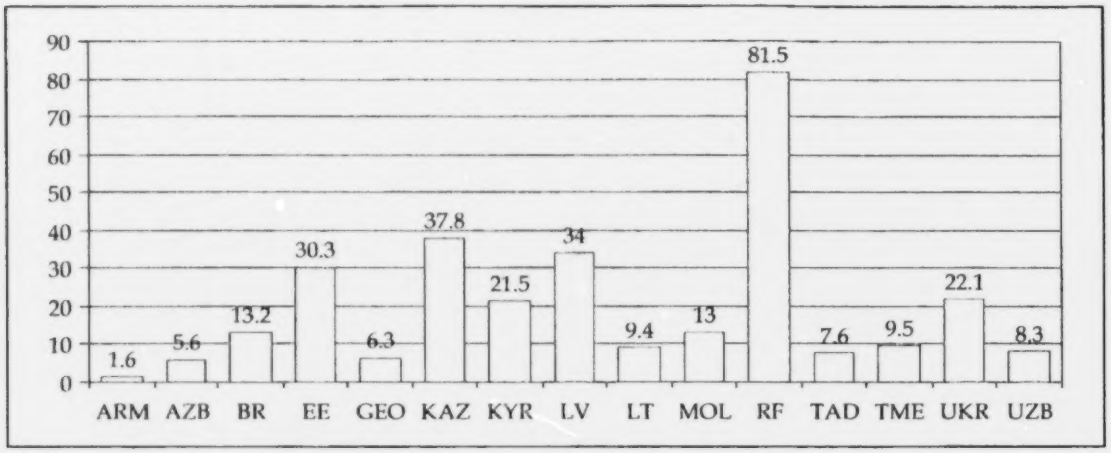
Graph 4 Ethnic Russians as % of total population in former Soviet republics 1994

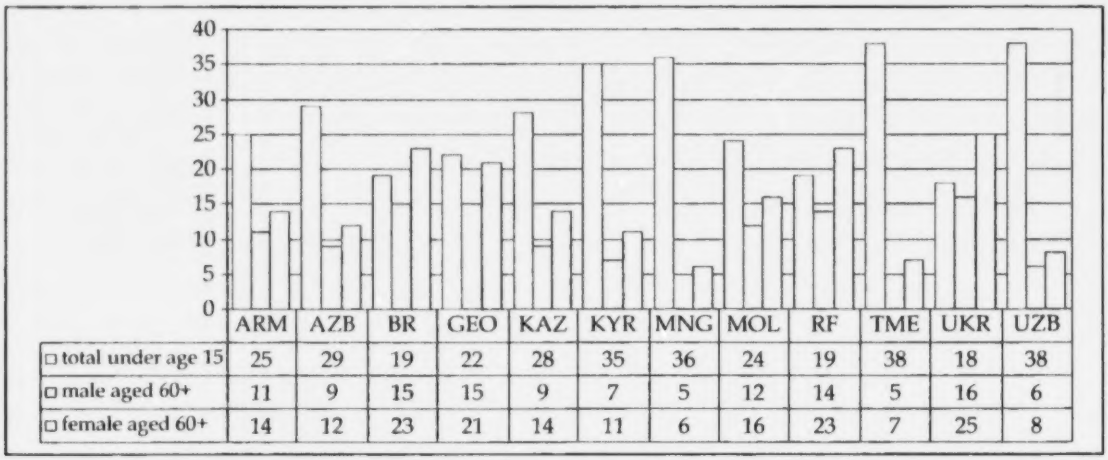


Source: The Economist Intelligence Unit - Russian market atlas 1999 and Russia CIA World Fact Book.

Demographic trends have consequences for education and training needs. The low birth rate in the Russian Federation and Ukraine means that in the near future lower numbers of students will enter the education system, therefore the need for school places will reduce. But the Russian Federation also has a high number of immigrants, mostly above the age of 25. Taking into account the structural changes within the labour market, the need for re-training the work force has become urgent.

The Central Asian countries have a high birth rate, and the share of young people within the total population is much higher than in the European New Independent States (19% in the European New Independent States and approximately 36% in the Central Asian New Independent States). Consequently, these countries need more school places and teachers (see Graph 5).

Graph 5 Youth and elderly people as a percentage of the total population 1999



	ARM	AZB	BR	GEO	KAZ	KYR	MNG	MOL	RF	TME	UKR	UZB
□ total under age 15	25	29	19	22	28	35	36	24	19	38	18	38
□ male aged 60+	11	9	15	15	9	7	5	12	14	5	16	6
□ female aged 60+	14	12	23	21	14	11	6	16	23	7	25	8

Source: Statistical division of the United Nations Secretariat and International Labour office.

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There are also big differences in New Independent States and Mongolia in the way populations are spread across urban and rural areas. Generally, the European countries within the New Independent States are more urbanised than the Central Asian countries within the New Independent States. For example, the urban population in the Russian Federation amounts to 76%, in Belarus 71% and in the Ukraine 70%. The percentage of the population living in rural areas amounts to 59% in Uzbekistan, 55% in Turkmenistan and 61% in Kyrgyzstan. In the Novgorod Oblast region of the Russian Federation, around 70% of schools and 50% of teachers are located in rural areas where no more than 25% of students are to be found.

Conclusions

All the countries have suffered from significant economic problems since the reform process started in 1990. Industry collapsed, GDP fell sharply, unemployment increased and social conditions deteriorated.

With the collapse of industry the system of company training came to an end.

Since 1997, most countries have been able to stabilise their economies and economic growth has been observed. Strong differences can be detected between the different economic sectors, for example, the agriculture sector has reduced in size in all countries, whereas sectors more related to the market economy (e.g. services) have become stronger. Some sectors were only able to survive due to subsidies thus avoiding the closure of companies and keeping people in employment. Such subsidies to inefficient enterprises kept an inefficient system in place. Furthermore, the more productive companies found it difficult to compete on an equal basis with companies receiving such support.

Developments in the different economic sectors will influence the current and future requirements for training. It is important that the training system should anticipate this situation by developing training programmes and training teachers and trainers in light of these new requirements.

Despite the fact that the privatisation process had a rather quick start, capital investment is still at a low level, due to political instability, heavy taxation and poor infrastructure. In terms of employment, it is not realistic to expect the emerging private sector to absorb the high numbers of people that became unemployed after the closure of State companies.

Privatisation does not necessarily mean that companies are managed without State influence. The understanding of the concept of privatisation in these countries is somewhat different from the traditional western definition. Although market conditions differ very much among the countries, in all countries under economic and social transition the market mechanism functions in a different way to the EU or other western countries. Most of the countries have a strong shadow economy and a complicated tax system, which has a negative impact on State income. Consequently, State budgets are unable to maintain a social welfare system nor to invest further in education and training.

Macro-economic research gives clear signals that economic growth and employment is closely related to the qualification level of workers. For this reason vocational education and training became central to EU policy and is considered a useful instrument in the fight against unemployment. In their efforts to bring their systems into line with those of the countries within the EU, considerable effort has been made in order to upgrade and modernise training systems. It should be indicated that a number of value assumptions are built into the view that transition countries should bring their vocational education and training systems into line with international standards. One implication that is that they are in a continual catch-up situation.

It is obvious that the systemic reform of the education and training systems in the New Independent States and Mongolia is closely linked to the economic development of the economies. Given the increasing interlinkage of economies, companies need to prepare themselves for a global market. This creates opportunities and challenges for companies in all countries, but also sets high educational requirements for the labour force. In particular, economies in transition are vulnerable and need to increase their competitiveness through an increase in the quality of their products and services. Close links are needed between the training sector and employers to avoid skill mismatches and skills shortages in the changing labour market.

Training systems cannot solely be responsible for preventing unemployment. There is a responsibility however, to prevent too many young people leaving the education system without any professional qualifications. For those that have already left school with low skills, job opportunities for low-skilled people can only be addressed by raising their through targeted training and by the provision of jobs in the public sector.

It also matters greatly that youngsters complete their vocational training. It is important to reduce the high dropout rate in vocational education and training. Under current conditions, this is difficult to achieve. There is a need to strengthen the relationship between general education and vocational training. It is important to realise that a market economy expects the workforce not only to have professional skills in the narrow sense, but also other competencies such as organisational capabilities, flexibility, adaptability, and entrepreneurial skills. Vocational training has to build on the basic competencies provided by general education. There is an act of faith in establishing or maintaining a vocational education and training system in the medium term against a longer term recovery in the economy.

Neighbouring Poland is an interesting example of a relatively successful economy (big bang) with very little reform of vocational education and training in the 1990s. In the main the economy developed on the back of existing and traditional skills. Post 2000, however, without reform the country faces the global economy with serious skill shortages.

Chapter 2
How vocational education and training systems have developed since 1990

Introduction

There is a common understanding in the OECD countries that economic growth and welfare is dependant on a highly trained workforce. Therefore most of these countries have invested heavily in education and training resulting in raising levels of participation. Most of the New Independent States are aware of the importance of having a qualified workforce and are motivated to modernise. However, the economic problems associated with the transition to a market economy, and the non-collection of taxes, make it difficult to increase the level of funding for public services including vocational education and training. Budget cuts pose serious threats not only to plans for modernisation (including the purchase of new textbooks and new equipment), but also to the ability to meet current running costs such as salaries and maintenance of buildings.

Public vocational education and training administrators had and still have to maximise outputs with decreasing financial resources. It is rather difficult to grasp the meaning of efficiency and productivity of education and training. Moreover, it is difficult to measure to what extent the training system is successful in matching the current and future requirements of the labour market.

Usually, the effectiveness of education is measured through performance indicators such as:

- the enrolment of students on a particular type of course, particularly if this is related to an agreed target reflecting anticipated needs or demands;
- retention or completion rates for the course;
- the qualifications gained;
- post course destinations, including both job take-up and progression to more advanced courses;
- measures of satisfaction from the clients, i.e. both employers and students.

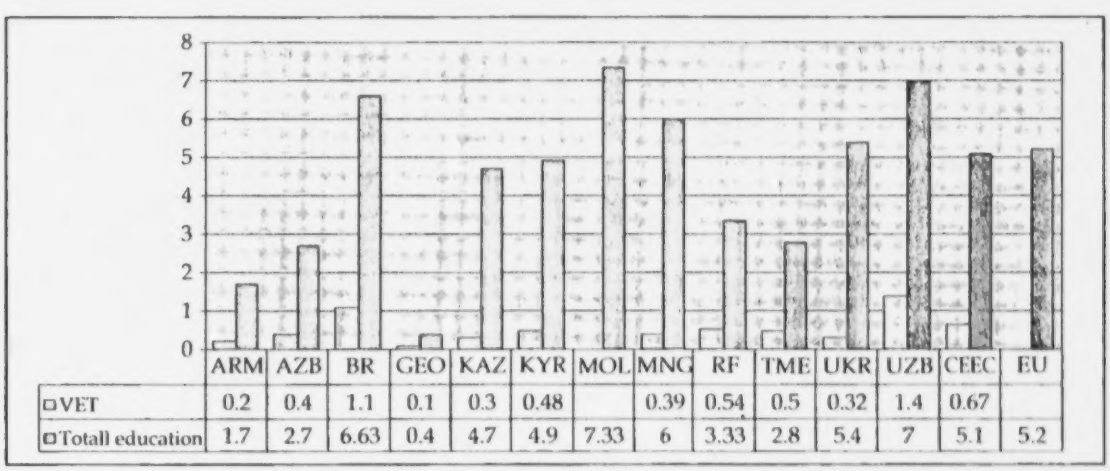
Cross-country comparison provides useful benchmarks for countries to determine their investment in education. It has to be realised however, that it is not possible to draw conclusions on country differences only by comparing the statistics.

The financing of vocational education and training systems

In all countries, the main contributor to the funding of education is the State. In some countries a decentralisation of vocational education and training structures has given responsibility for financing to regional and local bodies. Often countries spend in reality less on education than officially planned, which means that the State budget does not fully cover the real expenses of vocational education and training schools. Consequently, additional funding has to be earned by the vocational schools themselves. Financial constraints have hit teachers in particular. Not only are salaries very low, but they are not paid on a regular basis. This has not only demotivated teachers, but also driven many out of the education system. In Mongolia, the number of teaching staff and instructors reduced by 33% since the start of the reform process.

The pattern of spending on education does not differ very much from that of Central and Eastern Europe. In all countries, the allocation of the State budget for general education is higher than the allocation for vocational education and training and in most countries the education budget allocation went down. The average budget allocation for total education as percentage of GDP is 4.04%, which is lower than the average in the European Union and Central and Eastern Europe (5.2% respectively 5.1%). Compared with general education, the financing of vocational education and training is low. The lack of funding hit vocational education and training in particular because the unit costs of vocational education and training in comparison with general education are much higher. The average allocation for vocational education and training is 0.5% of GDP, whereas the average allocation in Central and Eastern Europe is 0.67% of GDP (See Graph 6).

Graph 6 Allocation to total education and vocational education and training as percentage of GDP in New Independent States and Mongolia, 1997



	ARM	AZB	BR	GEO	KAZ	KYR	MOL	MNG	RF	TME	UKR	UZB	CEEC	EU
VET	0.2	0.4	1.1	0.1	0.3	0.48		0.39	0.54	0.5	0.32	1.4	0.67	
Totall education	1.7	2.7	6.63	0.4	4.7	4.9	7.33	6	3.33	2.8	5.4	7	5.1	5.2

Source: European Training Foundation, vocational education and training data for the Russian Federation refer to 1996.
Source: EU (Eurostat).
No data available for Moldova on vocational education and training.

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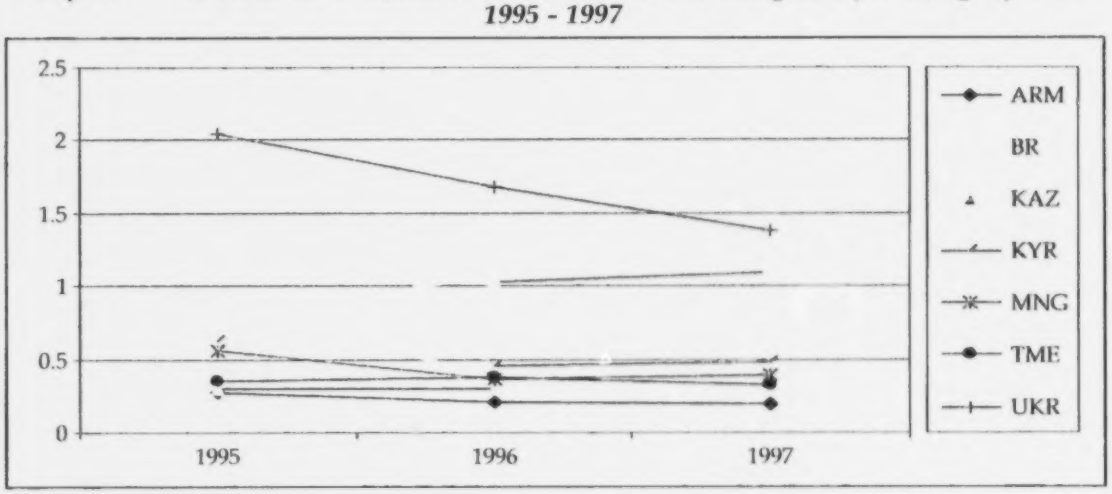
Kazakhstan

The financing of vocational education and training institutions (state-budgeted) is based on an indicative plan of social and economic development of a region and based on the local budget. The "education" section of the budget is developed by a local education department, examined by the local finance department, discussed by the maslikhat and approved by the akim. Training institution costs are approved according to the estimation of costs calculated on the basis of data on all expense items (teacher wages, utilities cost, scholarships, meals for students, equipment purchasing, major repairs). Special secondary training institutions (State-aided institutions) are financed according to the indicative programme and State order placed on the tender basis. The education authorities do not approve the expenses of State-funded institutes but do however control the expenses. The percentage of the State budget expenditures on education (in terms of GNP) was in 1995, 3.5%; in 1996, 3.3%; in 1997, 3.2%. Expenditure on vocational education and training as part of the overall education budget have decreased from 16.6% in 1994 to 9.4% in 1998.

Source: National Observatory Kazakhstan.

In practically all countries, the budget allocation for vocational education and training as a percentage of GDP went down slightly during 1995 and 1997. In Armenia the budget allocation went down from 0.27%to 0.2%, in Kyrgyzstan from 0.63% to 0.48%, in Mongolia from 0.56% to 0.39%, in Turkmenistan from 0.35% to 0.32 % and in the Ukraine from 2.05% to 1.38%. Only in Belarus did the budget allocation go up from 0.92% to 1.09%. However, as mentioned earlier, the allocation for education and vocational education and training as a percentage of GDP does not represent real spending which is usually much lower (see Graph 7).

Graph 7 Allocation on vocational education and training as a percentage of GDP 1995 - 1997



Source: European Training Foundation.

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Financial constraints forced all countries to review their financial situations and to look for more efficiency and diversification of funding arrangements. It should be acknowledged that the efficiency of the education systems could improve through a rationalisation of the structure of education and training. In particular, in rural areas, schools do exist with an unfavourable teacher student ratio. Although a difficult decision, the closure of very small schools or a merger with other schools in the region could help to bring costs down. Another possibility would be to use vocational education and training school facilities more effectively for other training purposes, such as training of unemployed and re-training of workers.

Uzbekistan is introducing a major reform in secondary specialised vocational education, the so-called National Training Programme (NTP). Under this 6 billion dollar programme, a new obligatory type of vocational education and training school will be set up, the professional college. The latter will replace all existing types of initial vocational education and training. 90% of 15-18 year olds will go to professional colleges in the future. To fund the NTP, Uzbekistan is heavily dependent on foreign loans and will allocate around 10% of its annual governmental budget to the NTP for a period of ten years.

Another example is the Moldovan government which will finance only 15% of the calculated total costs for vocational education and training in 2000. As a consequence alternative sources of income become essential for vocational education and training school survival. The following are those adopted in a 'green paper' (policy and strategy) adopted by government in late 1999 which is expected to be transformed into appropriate legislation in 2000. The extract below is from the finance section of the 'green paper' itself:

Underlying aims

1. To ensure sources of income balance with expenditure it is necessary to:
   - rationalise vocational education and training provision to decrease costs;
   - develop new financial sources;
   - to shift costs to other budget headings.
2. It is important to ensure that steps are not taken that have a damaging effect on the actual and future system but with only a minor decrease in costs.
3. It is also important to ensure that the contribution from central government is sufficient to maintain a credible base for future systemic development.

Rationalising vocational education and training provision to reduce costs

4. Costs need to be shifted from the public to the private sector, in particular by:
   - creating a legislative and financial framework to encourage employer involvement in apprenticeship and job experience;
   - providing tax break incentives for employers committed to training activities.
5. Trade school provision should be streamlined to ensure that courses for the same certificate have the same time allocation.
6. The cost of student hostel accommodation should be displaced from the Ministry of Education vocational education and training budget to a social cost budget or to students themselves.
7. The general education stream in the polyvalent schools should be maintained (to bear comparison with best practice transnationally) since the cost savings of closing the stream are minimal.

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Developing new financial sources

8. 25% of the necessary vocational education and training budget should be provided by implementing mechanisms to collect a 2% payroll levy as a precept for vocational education and training along the lines of the French apprenticeship and continuing vocational education and training model.
9. 15-20% of the necessary vocational education and training budget should be provided by offering greater incentives for the growth in school commercial activities (currently at 12%).
10. Hostel accommodation should be managed to generate income by charging economic costs.

Overall measures

11. It is recommended that a special donor investment fund be created to assist with the implementation of the recommendations in the 'green paper' using the latter as the basis for a donor workshop.
12. It is recommended that the 15% of central government's contribution should be reviewed and increased to prevent collapse while the measures above can be implemented.

It should be noted that the financial situations, such as the one experienced in Moldova, drive systems inexorably towards decentralisation and institutional autonomy as central government (in OECD countries too) cannot sustain the entire vocational education and training sub system by itself. This implies not only changes in finance and consequently organisation and structure but also professional processes. The schools will have more say on the curriculum. The government will wish to retain a steering role on standards and qualifications.

Russian Federation

In the Russian Federation the structure of public funding has undergone big changes. The right to manage State budgets for compulsory education was given to regional authorities in 1992. The financing of professional education, including higher education and vocational education and training, is the responsibility of the federal government. However, transfering the responsibilities for vocational schools (PTUs) to the regional governments is currently under consideration. Vocational education and training is currently financed from the federal budget (70%), the regional budget (20%), funds of labour and employment authorities and financing by providing training to the private market. Many regions finance their share of the education budget as well through training taxes of 1%-1.5% on wages or profits. Generally, in most countries the schools have received more financial authority, they develop the costs breakdown, decide on production and commercial activities and are able to conclude financial contracts with other organisations. However under the current legislation of some countries, the non-budgetary activities of vocational education and training schools are taxed at the same level as commercial organisations and they are obliged to pay tax to the authorities. As a consequence, schools are not always motivated to provide training services for the private market.

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The lack of tax exemptions for vocational education and training institutions providing fee-paying services is a problem that needs to be resolved. In practice, the non-budgetary activities of initial vocational education and training institutions are taxed at the same level as commercial organisations, and they are obliged to pay both federal and local taxes for providing extra services to external organisations or individuals. Such taxation does not stimulate vocational education and training institutions to develop their fee-paying services. The paradoxical dilemma for vocational education and training schools is on the one hand being taxed or losing the income to the finance ministry, or, on the other, being accused of unfair competition. On a smaller scale, this is also true of European Union vocational education and training schools which are pushed (politically) towards competition within the internal market.

Expectations are increasingly directed towards the private sector and individuals to contribute both more and systematically to the costs of the national provision of both initial and continuing vocational training. However, in most countries the private sector is not ready to contribute to the funding of vocational education and training. Models to oblige enterprises to contribute to training costs with a certain percentage of their wage bill are not realistic under the current situation. Moreover, tuition fees are generally very low and only a limited number of students can permit themselves to pay for training. In Poland, as indicated above, the government has not given priority to the reform of vocational education and training but the economy has been sufficiently buoyant for individuals to invest in their own requalification. Another major dilemma, therefore, is a need to present policy objectives for funding vocational education and training when government policy may be to ignore the sector in favour of national cost cutting.

More general international comparisons tell us that:

- Decisions on providing resources vocational education and training are related to more general policy decisions concerning *terms of reference, decentralisation, standards and legislation.*
- In most countries even if demand for vocational education and training is increasing, training is becoming more expensive as public sector budgets decrease. Public vocational education and training administrators have to maximise outputs with decreasing resources. Governments, employers, and private individuals increasingly implement mixed funding solutions of vocational education and training activities.

The most common organisational solutions to address the lack of funds are:

- *decentralisation to local authorities;* in some instances central government provides only wage-related funds and local authorities are responsible for the cost of school maintenance and operational expenditures;
- decentralised funding can help to create *local authorities fund-raising powers* including special local taxes for education or *payroll taxes;*
- *decentralising management* of the system to national training agencies allowing government to concentrate on policy development;
- staffing the agencies with *private sector staff;*
- *co-financing schemes* via the social partners and sectoral organisations;
- exposing public vocational education and training agencies and schools to *market forces.* In this case government becomes a customer rather than a provider;
- setting up national labour market funds (these could receive private revenue as well as public).

The demand for and supply of vocational education and training

Following independence, all countries had to overhaul the centralised system applied in the Soviet Union. The centralised structures and the common methodologies of education standardised the educational process, but limited the ability of vocational education and training to adapt to specific economic demands.

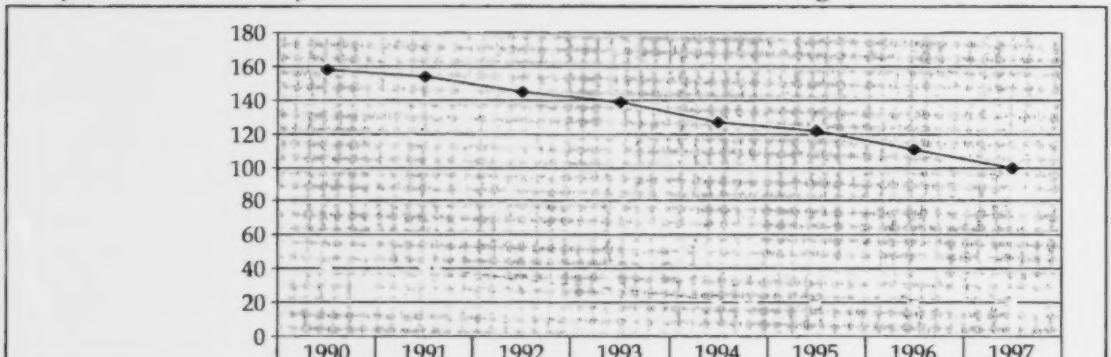
Traditional links between schools and large State enterprises disappeared and enterprises closed down their training facilities. This has created severe problems in the restructuring process of the economy and the training sector, and made it difficult to avoid skill mismatches and skills shortages. Reduced demand for labour, due to shrinking State production created a training vacuum except in areas directly related to the market economy such as banking, finance, commerce, and legislation. New skills were hardly in demand and the development of events resulted in an almost complete collapse of vocational training systems. Uncertainty concerning the qualifications that were required led to the situation where vocational education and training schools often remained to train pupils for professions and functions that had become obsolete with old teaching methods, curricula, materials, and equipment. In turn, these factors had a negative impact on enrolment in vocational education and training schools. The number of pupils dropped, teachers were laid off and schools closed completely. The graph below illustrates this in the case of Georgia (Graph 8).

The move away from vocational education and training towards general education has been a phenomenon in the countries eligible to participate in the European Union's Phare Programme. It is caused by an interaction of factors:

- the irrelevance of narrowly-based skills in a changed and changing economy;
- the uncertainty of future skill needs (accompanied by lack of local and national forecasting mechanisms);
- the need for adaptability and flexibility hence a concentration on core skills;
- the lack of parity of esteem for vocational education and training, a feature which also exists in OECD countries.

Equally, in transition, investment in general education may provide a better long-term pay-off both for individuals and the economy. Although at this point the notion of lifelong learning/continuing vocational education and training comes into play, the issue will be taken up in a later section.

Graph 8 Number of vocational schools and students in Georgia between 1990-1997



	1990	1991	1992	1993	1994	1995	1996	1997
Schools	158	154	145	139	127	122	111	100
Students (x 1000)	41.39	40.94	33.47	28.2	21.39	18.2	19.53	20.46

Source: National Observatory report Georgia 1999

The Soviet vocational training system

1. The core stream was the vocational technical school (PTU), combining training in a vocational skill with upper secondary general education. 52% of the three-year programme dedicated to vocational training, divided into practical training, production training and some theoretical background and specific skills. Practical training took place in so-called "base enterprises", factory shops and industry. Only 10% of graduates completing full secondary vocational education and training went on to follow full-time higher education, including the Technikum.
2. The Technikum provided 3-5 years of training within secondary specialised education, in the service sector, libraries and teacher training for Kindergarten and primary education. Often schools linked with big industrial and agricultural companies, hospitals and cultural institutions. Graduates could apply for lower management positions in different sectors.
3. State-run enterprises and collective farms had an important function in the school-based vocational education and training systems. While the schools catered for the general subjects and introduced working life through school workshops, companies were the location for the practical training of students. The initial education and training within companies consisted of a narrow apprenticeship programme of up to six months mainly tailored to the direct qualification needs of the company in question.
4. The Training Production Centre (UPC) where pupils enrolled themselves onto vocational programmes and obtained initial vocational qualifications on the basis of six hours per week training (1-2 years in upper secondary schooling) in subjects such as driving, cooking, medical care, agriculture etc. Usually, UPCs were developed in territories, which did not have sufficient opportunities (numbers/options), for establishing a PTU.

In the Russian Federation, the number of vocational education and training schools remained more or less stable, and an upward trend can be seen as of 1995-1996. Not only the number of educational establishments seems to have risen but also new types of educational establishment have appeared. Institutions of general education may carry out vocational training under contract with companies, institutes, and organisations in the form of supplementary education services. Basic vocational education is organised only upon agreement with students and their parents. At the level of post secondary vocational education, many colleges act nowadays as independent institutions offering advanced vocational curricula. Their share of the overall educational establishments rose from 17% to 26% over the last three years and enrolment has risen from 22% to 35% of the total enrolment at this educational level. The largest number of post-secondary vocational institutes is concentrated in industry and construction (907), healthcare (436) and education (428 - mainly for primary school teachers and teachers for basic vocational education).

In all countries, the majority of the population in all age categories obtains an education level of upper secondary education (ISCED 3). This is similar to that of the countries in Central and Eastern Europe and beyond the average level of the countries of the EU. This attainment level is considered by most countries within the European Union, Central and Eastern Europe and the New Independent States as a minimum requirement for either starting a professional career, or for continuing with further education. Most governments have set ISCED level 3 as a target for young people to obtain, therefore high rates at ISCED level 2 should be regarded as negative. The high numbers of young people participating in vocational education and training at this level indicate the importance given by authorities to obtain this target.

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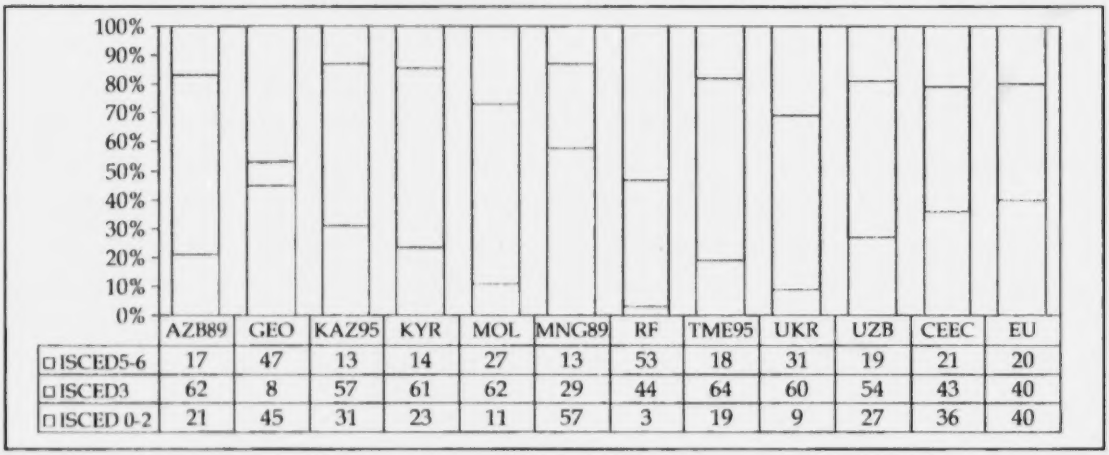
While in the New Independent States and Mongolia more people achieve an educational level of ISCED level 3 than in the European Union countries, fewer people obtain the level of tertiary/higher education, university degree or post graduate degree (ISCED level 5-6). Exceptions are the Russian Federation and Georgia, where the percentage of the population with ISCED 5-6 is very high and exceeds even the European Union and Central and Eastern Europe averages (see Graph 9).

Graph 9 Educational attainment of population age category 25-59 in 1997



	AZB89	GEO	KAZ95	KYR	MOL	MNG89	RF	TME95	UKR	UZB	CEEC	EU
ISCED5-6	17	47	13	14	27	13	53	18	31	19	21	20
ISCED3	62	8	57	61	62	29	44	64	60	54	43	40
ISCED 0-2	21	45	31	23	11	57	3	19	9	27	36	40

Source: European Training Foundation, EU (Eurostat)

ISCED classification 1997

ISCED 0 (pre-primary education): education, which precedes primary education.

ISCED 1 (primary education): schooling which begins between the ages of 5-7, is compulsory in all cases and lasts 5 or 6 years as a rule.

ISCED 2 (lower secondary education): schooling which is compulsory in all the countries. The end of this level often corresponds to the end of full-time compulsory schooling.

ISCED 3 (upper secondary education): schooling which begins around the age of 14-16 and refers to either general or vocational education. It may lead to the standard required for admission to higher education or it may be an educational "dead-end".

ISCED 4 (Post secondary non-tertiary education).

ISCED 5 (tertiary/higher education non-university degree). Programmes which, generally, do not lead to the award of a university degree or equivalent though admission to this level usually require the successful completion of a programme at the upper secondary level.

ISCED 6: programmes leading to a university degree and advanced research qualification.

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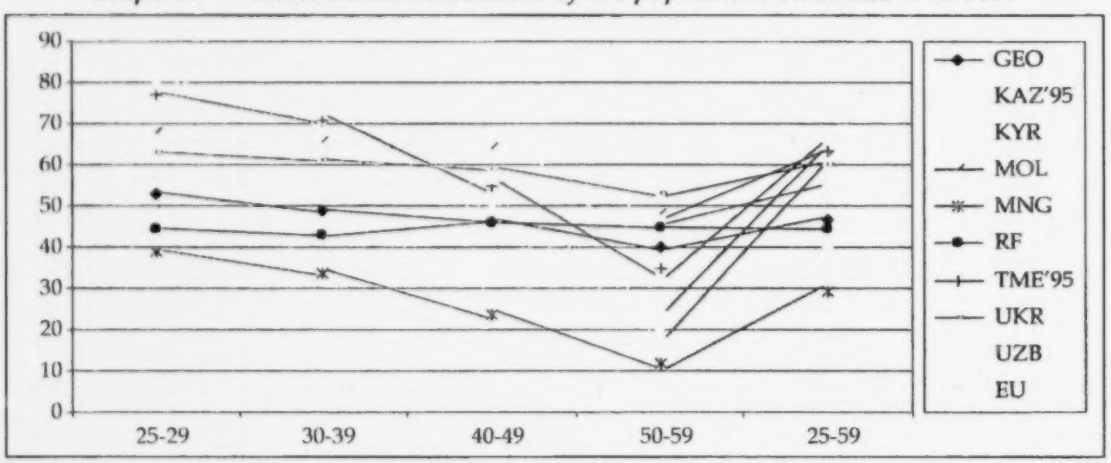
Young people demonstrate higher educational attainment rates than older age groups. The biggest differences between the two age groups are at education attainment level ISCED 3. In Azerbaijan, Kazakhstan, Moldova, Mongolia and Turkmenistan the percentage of young people that obtain ISCED level 3 is higher than the next age cohort (25-59 years). Mongolia and Kyrgyzstan show the strongest differences between the two age groups. In the Russian Federation, Uzbekistan and the Ukraine, no big discrepancies can been found between both population groups at ISCED level 3. There are no significant differences between genders in both age groups for obtaining ISCED level 3 (see Graph 10).

Graph 10 Educational attainment of the population on ISCED 3 in 1997



Source: European Training Foundation

The education systems of New Independent States and Mongolia are more oriented towards general education (14-19 age group) than to vocational education. The percentage of youngsters in this age group participating in vocational education and training is around 8% (see Graph 11). The range of educational expenses has been shifted from vocational education and training towards general education. This is in contrast with Central and Eastern Europe and the European Union where vocational education and training is predominant in the same age group. The average number of young people participating in initial vocational education and training in 1997 was 37% in Central and Eastern Europe and 28.9% in the European Union (1993/1994). The participation rates of young people in vocational education and training vary considerably in the New Independent States and Mongolia. Participation in vocational education and training in the Russian Federation is only 3% whereas in Uzbekistan participation is 15%. With the exception of Azerbaijan and Uzbekistan, the participation rate of women in general education is higher than that of men except for ISCED level 3. Considerable differences can be noted from country to country within Central and Eastern Europe and the European Union. For example, in Central and Eastern Europe, participation rates vary from Lithuania (16%) to Slovenia (46%) with an average of 37% (gender breakdown - male 40%; female 33%). The same observation can be made in the European Union, for example in Austria 55% participate in vocational education and training at this age group whereas in Portugal the figure is 12%, with an European Union average of 30% (gender breakdown - male 31 %; female 28%).

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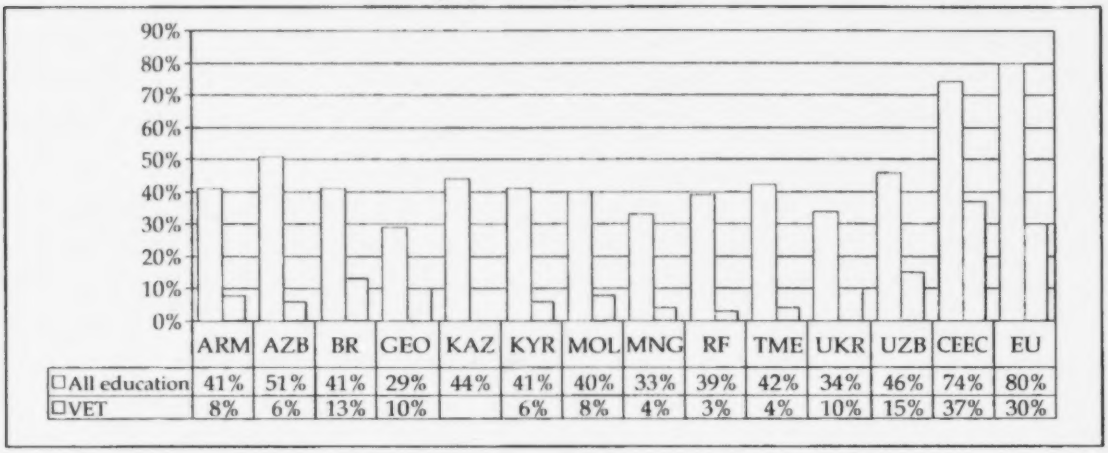
Graph 11 Participation rates in general education and vocational education and training of 14-19 year olds, 1997



	ARM	AZB	BR	GEO	KAZ	KYR	MOL	MNG	RF	TME	UKR	UZB	CEEC	EU
All education	41%	51%	41%	29%	44%	41%	40%	33%	39%	42%	34%	46%	74%	80%
VET	8%	6%	13%	10%		6%	8%	4%	3%	4%	10%	15%	37%	30%

Source: European Training Foundation, EU (Eurostat)
Kazakhstan no information available

The explanation for high participation rates in Denmark, Germany, Austria and Slovenia (the latter heavily influenced by its Austrian neighbour) is that they are countries where there is a tradition of the 'dual system', that is an historical and social commitment to apprenticeship for a large percentage of the 15-19 age cohort.

Mongolia

As the curriculum of the general secondary school system was more academic and especially oriented towards entrance into higher education, students of vocational and technical schools were often those who failed in general education and/or from poor families. According to a survey conducted by the Ministry of Education and Science, almost 20% of students are orphans, and 50% belong to families below the average living standard. The positive signs of economic growth together with population growth feed the need for technical and vocational education.

For participation in upper secondary education (ISCED level 3) there are significant discrepancies among the countries. Uzbekistan shows a high participation rate approaching the average in the European Union. Turkmenistan shows a very low participation rate at this level. Ukraine, Moldova and Belarus, although lower than Uzbekistan, achieve higher participation rates than the other countries. No data is available for the Russian Federation (see Graph 12).

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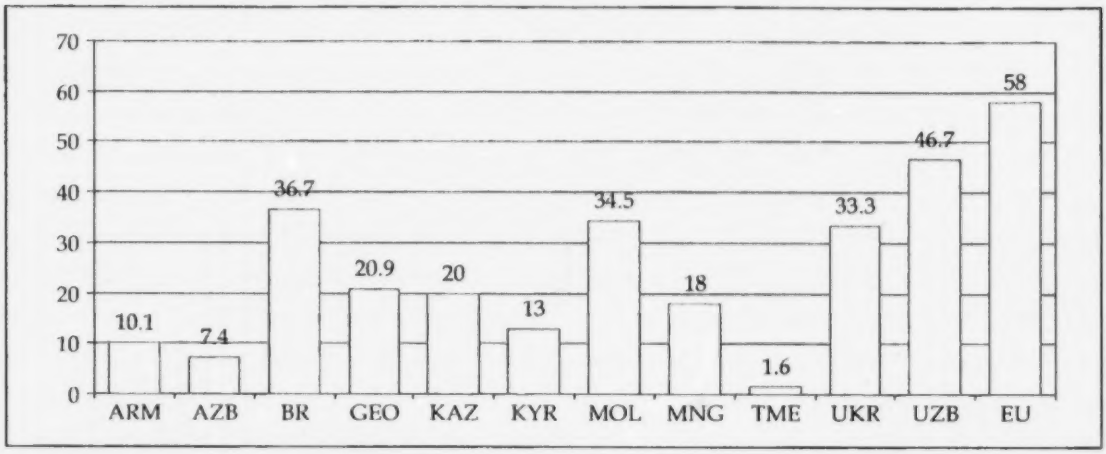
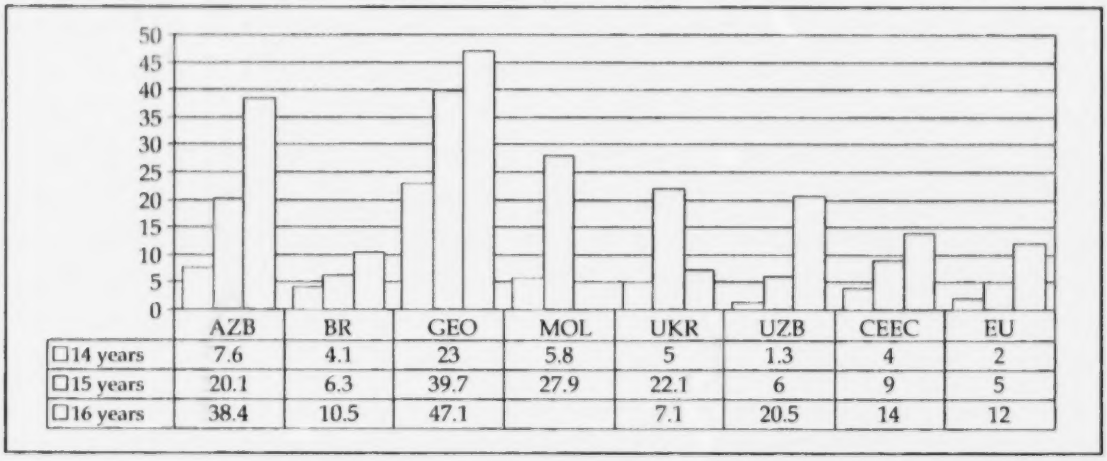
Graph 12 Participation rates in vocational education and training at upper secondary education (ISCED level 3) 1997



Source: European Training Foundation

An analysis of participation rates in education at age 14 shows (with the exception of Georgia) most young people in Azerbaijan, Belarus, Moldova, Ukraine and Uzbekistan still participate in education (see Graph 13). This is in line with the age that compulsory education normally ends. From age 16 the non-participation rate rises sharply. This is in strong contrast with Central and Eastern Europe and the European Union where, at this age, around 90% of the youngsters are still in education.

Graph 13 Non-participation in all education and training of 14, 15 and 16 year olds, 1997



	AZB	BR	GEO	MOL	UKR	UZB	CEEC	EU
☐14 years	7.6	4.1	23	5.8	5	1.3	4	2
☐15 years	20.1	6.3	39.7	27.9	22.1	6	9	5
☐16 years	38.4	10.5	47.1		7.1	20.5	14	12

Source: European Training Foundation, EU (Eurostat)
Moldova no data available

One characteristic feature for all countries under transition is the high dropout rates from education at upper secondary level (ISCED 3). This can be attributed to a number of factors which include poor facilities and the low quality of teaching. The dropout rate in vocational education and training is higher than in general education. This can be attributed to the fact that vocational education and

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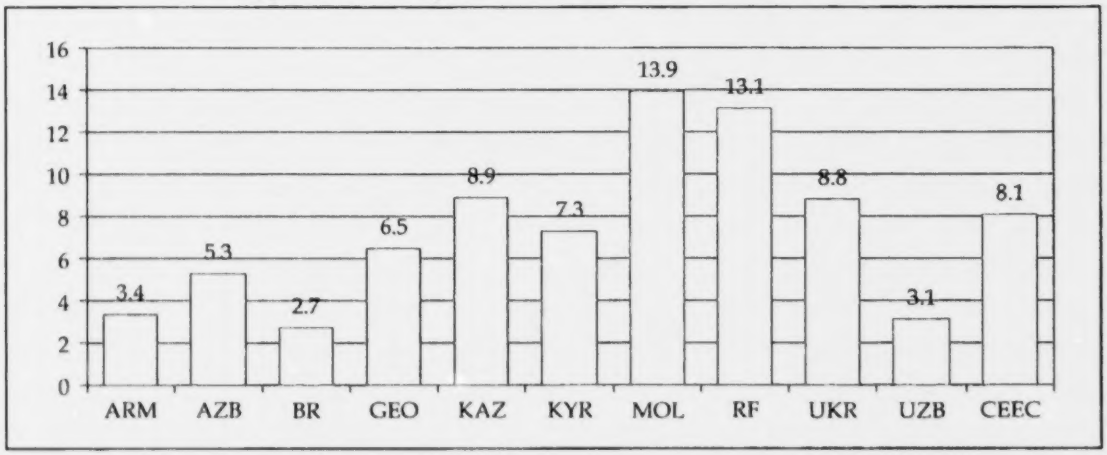
training has a lower reputation than general education and attracts less motivated and weaker students. Vocational education and training schools are less successful in retaining young people in vocational programmes than schools providing general education. Teachers in vocational education and training schools are generally lower qualified than teachers in general education and mostly have no specific pedagogical and/or didactical training.

Overall, girls show lower dropout rates in vocational education and training than boys. Dropout rates rose quite strongly during 1995 and 1997 in Moldova and Azerbaijan and went up slightly in Belarus, Kyrgyzstan, and Georgia. Only in Armenia can a decrease in dropping out be observed. However, the total number of dropouts in 1997 in the Russian Federation and Moldova is very high (see Graph 14).

Graph 14 Dropout rate trends at ISCED 3 in 1997



Source: European Training Foundation.

Parity of esteem for vocational education and training (or rather lack of it) is a major preoccupation in European Union countries where approaches to improving the situation have only met with limited success. France has succeeded in first making the technological 'lycées' respectable with a 25 year investment programme, then developing the 'lycées professionels' with a particular emphasis on sandwich courses. The Netherlands 'MBO' stream is also respected and highly regarded. For transition countries, the hope is to retain a sufficient base for vocational education and training to have a medium term development future.

In Moldova, the response to the economic crisis, centred on constraints in public spending, has resulted in the following suggestions:

- reduce unit costs by modifying the staff/student ratio along classic lines (i.e. increase class sizes); reducing the number of times a class meets; increasing staff contact time; reducing the school week;
- transfer costs to parents and companies;
- charge for school texts;
- more significantly, reduce the general education component in polyvalent schools to a point where progress is threatened.

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Continuing vocational education and training

With the collapse of the former continuing education and training systems, the mechanisms and systems of continuing training disintegrated. A new concept of continuing training, with a different infrastructure and new programmes is needed to meet the requirements of a future and developing market economy.

Currently, different forms of continuing training can be distinguished:

(1) the (re) training of the unemployed;

(2) re-training for employees to increase their (technical) skills;

(3) post graduate higher education;

(4) management training.

Continuing training and retraining for the unemployed is mainly the responsibility of employment services, whereby the training is determined by the immediate demand of the labour market. This kind of training is therefore not meant to meet longer term needs. In-service training is very much seen as a matter for companies rather than the State. In view, however, of the fact that employers have largely opted out of training provision, this constitutes an important gap in the vocational education and training policies of all the countries in question. Continuing training for the employed is carried out either by public or private vocational schools, or by enterprises themselves.

Ukraine

In the Ukraine, workers can improve on their professional qualifications in 502 educational establishments. This includes 97 higher institutions of post-diploma education (6 academies, 1 university, 10 inter-branch institutes, and 80 institutes for qualification promotion (IQP); 117 faculties for qualification promotion and personnel re-training. Furthermore, there are 94 educational centres for personnel training and re-training; and 194 courses, departments, educational establishments on the basis of scientific-research institutes, schools, educational and course comprehensive schools (Table 3.2). More than 300 managers and specialists in different economic fields, education, science and culture are taught there annually.

State, public and other organisations create educational establishments for qualification promotion and personnel re-training. This is regardless of forms of ownership and according to social, economic, national, and cultural needs and availability of the necessary scientific-methodical, logistic basis and pedagogical personnel. Educational establishments must provide a level of quality of education that satisfies State demands despite their status and subordination.

Source: National Observatory report

The system of continuing training (lifelong learning) i.e. completion of training, retraining and occupational skills' upgrading has not yet become widespread and is still focused on specific categories of job seeker. State employment funds have very scarce resources hence a cutback in vocational training programmes for the unemployed. Placing people in a job after training is very difficult.

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The vocational training of employees needs serious improvement. The number of employees attending vocational training is very low, and institutions providing training for different branches work under difficult conditions. Countries such as the Russian Federation and the Ukraine have started to realise the importance of training and retraining their workforce. However, one of the biggest problems is the absence of sufficient State and enterprise funding, which has weakened the educational and training structure. This is in strong contrast with the European Union member states, where, in 1993, an average 57.4% of companies offered training to their employees (source CEDEFOP).

An increasing number of educational establishments provide training programmes for enterprises and for the commercial market. In particular the training market is developing in new areas related to the market economy such as finance, accounting, logistics, computer courses and management training including project management, human resources management and quality management.

The European Training Foundation Skills Audit of 200 enterprises in Kyrgyzstan has revealed that the most common forms of training are still linked to production technologies and not so much to organisational issues. The most important needs for training are likely to be linked to the organisation and development of the enterprises. The main need is in fact in management training at senior and middle management levels. These issues are not really addressed in the Ukraine and Russia.

Time and money are often used as an excuse, however the main problems are:

- lack of awareness that training is important for enterprise development;
- lack of capacity to define targeted training requirements; and
- lack of good training providers that can provide training in accordance with the needs.

Teachers and trainer training

The changing socio-economic context pressured teachers to adapt to a different concept of education, and to become promoters of change. Instead of being implementers and controllers they have to become facilitators of a student centred learning process. Teachers have to develop new patterns of communication, and become familiar with new ideas, methodologies and forms of organisation. From this perspective, the role of a teacher in the new society is more demanding and time consuming. In order to achieve these objectives, a number of obstacles inherited from the former socialist system have to be resolved first in order to support the reform process. Because of the radical changes, many teachers find themselves redundant or require professional upgrading.

The need for technical teachers with a narrow specialisation is reducing rapidly, but there is a shortage of teachers and trainers in new subjects such as marketing, computer science and technology. Often teachers have a rather limited industrial experience, and therefore have difficulties to adapt the content of a subject to the new conditions. Overall, teachers are not trained and prepared to deal with curriculum reform and demonstrate passive attitudes. Furthermore, all lack experience in building a democratic school management system. These factors slow the introduction of new subjects and up-to-date educational methodologies and technologies into the education process.

The situation requires a level of investment which OECD countries have approached over decades. International donor organisations, such as the World Bank, are able to make relatively large investments over longish time periods, usually more substantially in general education teacher development. Vocational education and training sponsors may be required to join forces with the World Bank and others to 'piggyback' (i.e. take advantage of generic developments) to enable vocational education and training to develop its sector priorities.

The next critical question is the management of change and over what period of time. Managing organisational, attitudinal and systemic change is lengthy and expensive. Unreasonable expectations from both donors and clients are sustained by short-term projects with unsustainable outcomes. It is necessary to think time periods of between five and ten years and perhaps more.

Teacher training in the Soviet Union

In the Soviet Union, there were two types of teacher in vocational schools: teachers of general subjects and teachers of technical subjects. The teachers of general subjects were educated in universities or institutes for higher education (VUZ). The teachers often lacked necessary practical knowledge and skills. The teachers of professional subjects received their training in technical and agricultural VUZ's, following a 4-5 year programme in one subject. About 80% of teachers studied vocational teacher training and graduated from in-service training courses in pedagogy from the universities. The practical part of the training was provided by groups of 'masters', i.e. supervisors of practical training in workshops or companies. These trainers had skilled worker qualifications but no pedagogical education at all. All teachers were obliged to follow an in-service training course at least once every five years, provided by a network of Teacher Qualification Re-training Institutes. The training was related to the performance assessment of the teachers that also took place every five years. These institutes were established in all republics and in every oblast of the Russian Federation, with the central institute in Moscow. Moreover, teachers followed regular seminars on pedagogical/didactical or technical subjects.

Poor conditions and low salaries have created a negative image for the teaching profession. This has hit motivation, and forced many teachers out of the profession. In particular teachers of English, mathematics and economics are attracted by positions outside the school system. For example, the number of teachers in Mongolia has decreased by 30%. Given the simultaneous reduction in student and staff numbers the same teacher student ratios remain in place. Some vocational education and training institutions employ professionals, such as engineers, technologists and technicians, as teachers despite their lack of professional and didactic skills. Teacher salaries are so low, that recruitment of new well-trained teachers is very difficult. This leads to a generation of ageing teachers, a latent problem for the longer term.

Teachers still in the job face many problems such as lack of modern textbooks or textbooks in their own language and out of date technical equipment. Under Russian law, every teacher is entitled to receive (every five years) training for upgrading his or her skills and competencies. At the end of the course (which has an average duration of 72 hours) the trainees receive a certificate.

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The Ukraine

There are currently more than 10,000 teachers working in the field of vocational education and training in the Ukraine. Practically all of them have acquired a form of higher education; 30% have a engineer –pedagogical certificate and 45% of the masters of production training have a professional certificate. Teachers in vocational education and training carry out the theoretical and practical training of students. The country suffers from the high number of teachers and trainers leaving the education sector. More than 4,000 masters of production training and 818 teachers have left the system since the reform process started, in particular in the East and North regions of the country. Since 1998 the government has been making a concerted effort to improve the situation by paying salaries on time, and trying to raise the salaries of production trainers by adapting legislation. Special attention is given to enhancing the pedagogical and didactical skills of teachers. Moreover, a system of (re) training and upgrading of qualifications has been established through the State Academy of manager executives (Kiev) and regional science methodical centres for vocational education and training education, where up-grading of qualifications of specialised teachers can take place. In accordance with articles 45 and 46 of the Ukraine law on vocational education and training education, the legislative normative demands for engineer-pedagogical managers have been regulated. The main aim is to combine the functions and tasks of the master of production and the teacher to avoid the gap existing between theoretical and practical parts of the training.

Source: National Observatory report

Conclusions

In OECD countries with a high GDP level, the allocation of education expenditure is higher than in countries with a lower GDP level. This trend is paralleled in the transition countries. However, whereas the average allocation on education, as a percentage of GDP in OECD countries is 6%, it is evident that most New Independent States do not have the resources to reach this level.

Allocation as a percentage of GDP does not indicate the quality of education. The Russian Federation is spending 3.33% of GDP on education and 0.54% on vocational education and training. However, compared with the other New Independent States, the country has the highest educational attainment rates. Moldova is allocating the highest percentage of GDP to education compared with these other countries, however, the country achieved lower educational attainment rates and a higher dropout rate in education.

All the New Independent States and Mongolia are lacking the financial resources to increase the level of funding for education including vocational education and training. As a result, most of the countries do not invest sufficiently in the modernisation of equipment and training materials, and only the most urgent needs are addressed.

It might be argued that without extra funding the reform of the education systems will fail; another argument is that the way resources are used needs to be restructured and efficiency be improved. But it is a fact is that financial support for the reform process of vocational education and training has been minimal or non-existent and countries increasingly implement mixed funding solutions of vocational education and training activities.

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One of the most frequently used measures to assess the effectiveness of education is the educational attainment rate. In all transition countries, the majority of the population in all age categories obtains an education level of upper secondary education (ISCED 3). This is similar to that of the countries in Central and Eastern Europe and beyond the level of the countries of the European Union. This can be considered as a good starting point for further education or starting a professional career.

However, education systems are more oriented towards general education than vocational education and training, which means that a relatively low percentage of young people complete professional training. Moreover, the educational attainment rate at higher levels (5-6), with exception of the Russian Federation and Georgia, is rather low. It is difficult to argue whether higher investment in general education is currently justified. As long as (future) labour market requirements are unclear, it is questionable if investment in vocational education and training is the priority, particularly given the need to fulfil the minimum requirements of general education. What should be understood is that core skills represent the requirements of the emerging labour market and they therefore need to be integrated into vocational education and training provision. Even social requirements belong in a vocational education and training system, and cannot be provided by general education only.

The vocational education and training systems in most of the countries under review are not effective. After compulsory education the participation rate in vocational education and training falls strongly, although differences exist among the countries. For example, in Georgia, the non-participation rate in all education and training at the age of 16 is four times higher than in Central and Eastern Europe and the European Union. Big gaps in the current statistical framework make it difficult to draw strong conclusions. In particular relevant data on current and future labour market demands are missing due to the lack of systematic monitoring of the labour market. Most of the countries lack the necessary research capacity and the institutional framework as a result of the Soviet policy to concentrate research only in a few republics. However, from the data collected by the European Training Foundation's network of National Observatories, it seems that higher educated people (except in Georgia) are better protected against unemployment than lower educated people. Young people, although generally higher qualified than the older population, suffer more from unemployment.

As mentioned in Chapter 1 there is there is a relation between economic growth and the proportion of highly qualified workers. However, as essential information is lacking on what skills and competencies are needed, the training system has difficulties to anticipate and is unable to provide an appropriate training offer. Because teachers are lacking inexperience in new professions related to the market economy, and because funding is lacking, vocational education and training schools often continue to train people for professions and functions that are obsolete with old teaching methods and curricula. This influences why many young people decide to opt for general education since they perceive that this form of education will provide more opportunities.

Developing the capacity for providing labour market information regionally and training needs analysis locally combines four organisational/technical features:

- training in the creation and use of the appropriate tools;
- providing institutional homes for the sustainability of the methods evolved;
- relating the social partners to the processes involved;
- creating a responsive climate on the supply side.

Beyond these organisational and technical features a change in the attitude of government, managers and users is required. Internally and externally funded project development can pilot the organisational features in a matter of months; attitudinal change requires time, patience and sustained development over a generation.

Needless to say therefore, despite the strong need for the (re)training of the work force, most countries have not developed a new concept of continuing training, and in-company training has suffered budget cuts and has shown few innovations. A large part of the technical and material base of vocational education and training has been abolished at a time when training should have been intensified because of the adjustment to new market economic circumstances. As a result, continuing training is currently provided in a rather fragmented way. This is not surprising but leads to the complementary question relating to what emphasis should be given to fresh initiatives in project development.

The same problem exists in the OECD countries where lifelong learning is a politically accepted 'big idea'.

Chapter 3
The governance and management of vocational education and training

Introduction

During the last ten years, the environment for vocational education and training has changed dramatically in practically all the Tacis countries. Encouraged by the West, most are determined to change their socio-economic system in a direction following the demands of a democratic society and complying with the labour market evolution. The labour market is subject to change, therefore countries accept that training systems need to respond to and anticipate labour market needs.

Although starting from the same basis, all countries are now developing their own training systems in line with their own tradition and culture in order to respond to local needs. Having the same challenges most countries are interested in comparing developments in their systems with other countries. A framework of comparison is a helpful. Such a framework would need to address:

- the mission of vocational education and training;
- curriculum development and assessment;
- standards (occupational and qualifications);
- responsibilities (who decides what and where);
- the necessary ingredients for labour market analysis;
- finance;
- institutional homes for processes such as certification and labour market information;
- the necessary enabling legislation.

Legislation

The systems of the New Independent States and Mongolia were and still are firmly rooted in law: this means that only those developments explicitly specified in and regulated by law will be implemented. The reform of the countries, including a decentralised management system, non-state funding and private training initiatives, require the establishment of a new legislative framework. Newly introduced laws focused in most countries on the more administrative aspects and details of implementation rather than on principles and mechanisms. A coherent approach to the education system as a whole is still lacking. Most countries have realised the importance of developing specific vocational education and training legislation and involving all major stakeholders in this process to realise a clear consensus in reform. Only in Turkmenistan, Azerbaijan and Armenia are plans lacking to develop specific vocational education and training laws.

Uzbekistan

The Government of Uzbekistan has attached much importance to education and started the education reforms in 1992 with a "Law on Education". A second "Law on Education" was adopted by the parliament in August 1997, followed by a presidential decree on the "Basic Reform of the Vocational Education and Training System". These measurements formed the basis for the development of a "National Training Programme", which constitutes the overall strategy for the educational reform. The vocational education and training system in Uzbekistan consists of twelve years of compulsory education, free of charge. A new type of compulsory upper secondary education has been introduced. Two new types of school, academic lyceums and professional colleges will provide this type of education. Academic lyceums provide specialisation in humanities and sciences, whereas professional colleges provide vocational education. Graduates of both types can continue to tertiary education. It is expected that 10% of all pupils, who finished general school education, will enter academic lyceums while 90% will join the professional colleges.

Source: National Observatory report

In most countries legislative reform has started only recently, and is far from complete. Co-ordination among those responsible for the development of legislation covering different policy areas is often lacking, therefore the framework is lacking coherence and consistency. For example vocational schools are encouraged to become more entrepreneurial by offering training to private companies or enterprises. However, vocational education and training schools often do not have tax exemption, and are therefore less interested in providing training for the private market. For commercial activities, schools require not only tax exemption but the ability to retain income rather than lose it to the treasury. Whether they are competing with the private sector is another issue. In some countries, they may be driven by the sheer need to survive.

Furthermore, enterprises, are for the same reason, less interested in providing training for their employees and prefer to recruit staff who already have the desired qualifications. Better co-ordination of legislation developments will increase the impact of legislation reform and should therefore be encouraged. Unfortunately, most countries do not involve key stakeholders such as the social partners in the development of a vocational training policy, which hampers the establishment of consensus on vocational education and training reform. Many countries lack a sufficiently endorsed framework for the implementation of policy comprising clearly defined objectives and measures for change.

Two phases can be observed in the reform of educational legislation. The first phase is an immediate political response to independence and its democratic prerogatives, whereas the second phase is more an attempt to formulate a more comprehensive reform. During the first phase, most countries have started to develop new legislation in the field of education as a first step in the reform process. New education legislation focuses on the principles and goals of the education system and includes the freedom and pluralism of education and the absence of ideology along with the rights of citizens to education; the language(s) for its delivery; the main structures of the systems; the rights of management bodies in education at federal, regional and/or local level.

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Overview of legislative situation in Education

Country	Vocational education and training law?	Law
Azerbaijan	No	General law on education underway, vocational education and training is regulated by this law
Armenia	No	General law on education (1999) specific vocational education and training law under preparation
Belarus	No	General law on education
Georgia	Yes	Specific vocational education and training law adopted (1998)
Kyrgyzstan	Yes	Specific vocational education and training law adopted (1999)
Kazakhstan		General law on education underway, vocational education and training is regulated by this law
Mongolia	No	General law on education, vocational education and training is regulated by this law
Moldova	No	General law on education (1995), vocational education and training is regulated by this law
Russian Federation	Yes	Initial vocational education and training, law on secondary vocational education and training under preparation
Turkmenistan	No	General law on education, no plans for developing a specific vocational education and training law
Uzbekistan	No	Law on education (1997), vocational education and training is regulated by the education law
Ukraine	Yes	Specific vocational education and training law adopted (1998)

Source: National Observatory reports 1998/1999

The second phase of legislative reform has started only recently and tries to address a more coherent agenda with the aim of improving the vocational education and training system in its entirety. Some countries have made progress in developing specific vocational education and training legislation, in line with their training policies. New vocational education and training legislation regulates *inter alia*: the rights of citizens to receive vocational education and training; the function, provision and efficiency of vocational education and training; responsibilities in vocational education and training including the social partners, State authorities and other key actors; the content of curricula including the levels of qualification; the status of trainers and teachers including their qualification; relations with enterprise including practical placements for students; the funding of vocational education and training including non-state funding.

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Moldova

A green paper has been drafted that outlines the vocational education and training policy and strategy for the reform of the Moldovan vocational education and training system (Tacis project 97-0454) One of the strong recommendations made in this paper is the development of a specific legislative Act for vocational education and training. The vocational education and training reform act should redefine the mission of vocational education and training and its organisational framework. Enabling legislation is required to:

- redefine the mission for vocational education and training in a decentralised context;
- set the broad outline of the curriculum;
- set the framework for the qualification and certification;
- establish the responsibilities for the collection and expenditures at each level;
- establish a framework for accountability and evaluation;
- establishment of new institutions and the adaptation of existing ones.

It is recommended therefore that there should be a specific legislative Act for vocational education and training: the vocational education and training reform act.

Source: Green paper " Policy and Strategy" for vocational education and training - 1999

We have to be clear that legislation is often the end and not the beginning of a process. In some ways it is the least important aspect. It exists to enable agreed policy and strategies to be put into effect. The items identified in the introduction to this chapter: *mission; curricula; standards; location of decision making; labour market tools; finance; institutional homes* have to be part of an agreed policy and strategy and agreed by all the key actors involved. At this point only, is it necessary to consider the need for enabling legislation to carry through changes. Most legal experts would argue that it might be simpler to keep the existing legislation and change the regulations. In the case of Moldova however the answer was to introduce legislation with the "Vocational Education and Training Reform Act" This was due to the perceived need to give weight and importance to the major processes involved, to simplify existing complex regulations and, as in the title of the proposed Act – **to reform**.

What is legislation for? The Moldovan illustration above provides a useful framework and should be considered together with specifics such as:

- the need to create legal instruments for the operation of specific organisations. Examples would be the membership, terms of reference and financial powers of the boards of management and directors of substantially autonomous schools; the specific responsibilities for vocational education and training for the region; identification of new courses, construction and maintenance of buildings, etc;
- specific mechanisms will be required for the implementation of local taxes or payroll levies;
- legislation will be necessary to enable financial transfer at local level, for example for schools to collect an apprenticeship or continuing training levy directly from employers, rather than these funds disappearing into the Ministry of Finance as a general item.

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Another important element to keep in mind is 'simplicity'. Legislation should be short, simple and to the point in order to have main policy objectives clear for the legislators (parliaments) who are most unlikely to grasp (or wish to grasp) the complexity of the subject. The detail should be debated by experts who are determining the regulations.

Administration and management

All countries inherited a very centralised educational structure from the former system, with tight control by Ministry directives. Regional and or local education authorities, as well as schools were mainly implementers of these decisions. Social partner involvement in policy discussions and decision making was a phenomenon that was unknown. Devolution of power to the regional, local and school levels was seen in most of the New Independent States as an opportunity to overcome the socialist command economy. This process supposes that the State has to relinquish its monopoly and detailed control of the organisation but not necessarily the evaluation of vocational education and training. Responsibility for administration and control should not only be shared with other ministries but also with regional and local authorities and vocational education and training schools.

There is a strong need to redefine the responsibilities of government, employers, and trainees in vocational education and training, and create an environment for reform in the area of administration, financing, quality evaluation and social partnership. New management systems are required for institutions, new leadership styles, and the development of different working relationships with superiors and colleagues. This requires the development of new management systems and ongoing management training and retraining. Staff members also require training to function effectively in the new environment.

The redefinition and transfer of responsibilities requires not only strategic consensus but the financial and human resources to carry them through. On the one hand the latter do not yet exist, on the other the transfers are happening de facto because the State does not have the means to sustain its directive role. In Russia, regional education officers are handling decentralised powers without legal authority and the necessary financial means from the State. Vocational education and training schools may find themselves without central finance, teachers without salaries.

Vocational education and training schools continue to function for a variety of reasons: the shadow economy absorbs some costs; premises are let, equipment is hired, products are sold. *Effectiveness and efficiency* are terms defined by context. Most vocational education and training school directors in Eastern Europe manage the context they are in even as it changes. They use new equipment and management terminology as it comes on stream. Many ministry officials have clear strategic perspectives that their Western counterparts would even envy.

Azerbaijan

The Law on Education adopted in 1992 was a major step forward towards decentralisation of education institution management and higher independence of education institutions in organising their education process. According to clauses 33-37, local authorities and managers of education institutions have wide powers (within the framework of State policy only) in organising pedagogical and educational activities. Old management methods coexist with and sometimes even prevail over new ones.

Management of State vocational education institutions is distributed over ten different ministries and departments including the:

- Ministry of Education
- Ministry of Health
- Ministry of Agriculture
- Association of Consumer Co-operatives
- Department of Railway Management
- Industrial Association «Azerkhimiya»
- Industrial Association «Caspian Sea Shipping Company», etc.

Source: National Observatory report

The trend towards decentralisation varies significantly among regions and individual schools with regard to the extent and capacity for change. For example the Russian Federation has a multi-level system of responsibilities. The Federal Ministry of Education has the overall responsibility for vocational education and training and full financial and managerial responsibility for initial vocational education and training, although sector ministries still control their own vocational education and training schools. There has been a substantial transfer of responsibility for vocational education and training to the regional authorities giving municipalities and companies the possibility of establishing and financing their own vocational education and training schools. In St Petersburg, vocational education and training schools are registered as autonomous legal bodies which develop and implement educational services. They receive funding on the basis of agreements with the regional education authorities. However, according to the mid-term evaluation of the pilot project in North West Russia, regional vocational education and training authorities still call for national policy guidelines that should provide direction for the local development process in vocational education and training. In Azerbaijan, the management of the education system is still centralised, with the Ministry of Education responsible for determining education policy and putting it into effect by legal decree, with centralised systems for developing educational standards, curricula and timetables.

In all the New Independent States and Mongolia, the Ministry of Education is now responsible for overall education policies and the financing of education within the limits of the allocated budget. However, in most countries sector ministries were and still are responsible for maintaining and financing vocational schools belonging to their sector, such as health and agriculture. In most countries, a growing understanding can be observed that other responsibilities, such as the development of curricula and standards, job profiles, qualifications, accreditation, teacher training, should be delegated or shared with other actors. The relevance of social partner involvement in vocational education and training has been acknowledged in a number of countries, however real involvement in vocational education and training policy making is lacking.

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Social partnership

The concept of social partnership was completely new for the New Independent States and Mongolia and only introduced at the start of the reform process. Employer organisations did not exist in the old structure whereas trade unions suffered from a major loss in membership which forced them to re-orientate themselves towards new tasks. All countries lack experience in how to establish a social dialogue on vocational education and training development (a process undertaken over twenty years in western countries). Due to the accelerated transformation of society and transition from one socio-economic system to another, social partnership was introduced in several countries through a top-down approach, influenced by experience in other countries rather than based on internal criteria. Moreover, the introduction of social partnership took place in a period with extreme socio-economic conditions, characterised by a strong reduction in production, increasing unemployment, a reduction in salaries and high inflation.

The main intended partners have begun to conceptualise the idea of social partnership, but the employers, trade unions and public authorities are still in an state of organisational flux. The provisions for a legal basis for partnerships are underdeveloped and incomplete. Social dialogue is not yet current because on one hand there is lack of sufficient representative employers' associations and on the other, trade unions differ in political views which weakens their representative power. However, the process of 'association' has by no means finished nor has the process of recognition and joining partnerships. This means that the partnerships have to cope with changing representatives for a number of years.

Kyrgyzstan

In accordance with the law on Employment Promotion, the State Department for Employment has established a Tripartite Advisory Board (TAB) with representatives from the government and the social partners, which should elaborate co-ordinated solutions for the identification and implementation of employment and labour market policies. The Board advises the State Employment Department on all issues concerning employment promotion policies, and as one of its tasks it will participate in the management of the Training Fund. The Training Fund is a separate fund within the Employment Fund, which will be instrumental in all training activities for the unemployed, including group training, but also individual training, such as placements in enterprises or setting up businesses. The Board will have executive responsibility as far as the procedures for the development of the training are concerned and will have a controlling role of the Training Fund activities.

Source: National Observatory report

Despite the difficulties, there are positive trends observed in the New Independent States and Mongolia. In short there are the beginnings (albeit small) of the development of the concept of social partnership:

- In most countries, conditions have been created for the establishment and operation of representative organisations of employers and employees in order to implement the concepts of democracy, pluralism and freedom of association.

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- A plurality of unions can be observed which are organised on the basis of occupation, industrial or economic sector, but also as territorial units at different levels. The unions are then organised in federations or confederations which mainly function as representative bodies for the social partnerships at national level.
- A plurality of employer associations are in their turn organised in federations and confederations representing their member associations in partnerships at national level.
- Social partners have started to participate actively in handling social development issues.

Nevertheless, employer and trade union organisations are, in all the countries concerned, weak and weakly represented. Due to the social problems caused by economic recession, unemployment, and low salaries, vocational education and training systems have not received sufficient attention from the existing social partner organisations. Perhaps rightly, more attention is given to social and economic issues such as determination of prices, benefits, minimum wage and social protection, employment programmes and labour market policies.

Belarus

Trade unions as well as employer organisations are involved in the reform process. The necessity of their participation in vocational education is stipulated in the Conception of the Social Partnership Development in the Republic of Belarus (12 March 1997). The Council of Ministers of the Republic adopted the Regulation governing the republic on the problems of vocational training and youth placement (15 June 1998), the Regulation governing the organisation of interaction of State Organs, Trade-Unions and Employers (23 January 1995) - this was done in order to prevent mass unemployment, and a number of other documents promoting the participation of social partners in the vocational education reform process. Trade unions participate in the reform process through the inclusion of questions concerning staff training and re-training into the collective contracts and agreements with employers. Special attention is being paid to attracting the social partners at local level. The Ministry of Education elaborated a number of documents on interaction with social partners at company level and vocational schools and drafted documents on the creation of a three-level system of partnership of State organs of government, republican unions of trade-unions and employers.

Source: National Observatory report

How ideally might one approach decentralisation?

One condition for successful decentralisation might be the establishment of uniform technical guidelines for vocational education and training operations, including national school standards, vocational qualifications and a core curriculum.

Administrative and operational autonomy might be delegated to the lowest possible level training institutions. The vocational education and training providers would be enabled and encouraged to study market services by maintaining close links with local businesses, to programme course delivery, to develop curricula, to sell services and to follow up on placement of their graduates. It is only skill standards, vocational qualifications and examination requirements that should perhaps be defined centrally in order to secure quality of training. All this could result in schools responding to

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regional and local needs more effectively. In some countries, the autonomy of providers has been strengthened through **legal and funding reform**. The decentralisation drive towards greater autonomy of schools is also driven by the financial inability of the centre (or even regions) to cope.

In many countries the attempt to bring vocational education and training closer to labour markets has been an additional reason for education authorities to grant more **autonomy to schools**. This both in terms of letting them decide on areas the curricula in relation to local conditions and in terms of allowing greater freedom in organising the learning process. This has been accompanied by introducing a shift from traditional 'input control' (on curriculum contents, textbooks and timetables) towards 'output' (or competence-based) control. However such autonomy requires both a constitutional framework (role of school board, director etc.) and considerable training (managerial, curriculum, staff development and commercial) as well as a considerable maturation period.

Part of this development has also been the establishment of national qualification standards, often based on occupational standards elaborated with the assistance of the social partners. English speaking countries have tended to focus almost completely on competence-based standards. Other countries - and most of the continental European ones - tend to combine an output-oriented approach, retaining some central control over inputs (such as framework curricula, timetables and study loads) and the learning process (through definition of teacher qualifications and guidelines).

Recently, a number of Central and Eastern European countries have embarked upon developing the national institutions and mechanisms that would enable them to leave continuous innovation to schools. This work however is extremely complicated. It involves the reform of traditional vocational and occupational classification systems, the development of a system of national standards and qualifications and of external assessment and examination procedures, for which neither the necessary social partner involvement nor sufficient professional research and development capacity is available. Additional pressure is coming from the need to establish transparency of qualifications with European Union Member States.

Skills needs and vocational education and training standards

This section deals both with occupational and educational standards and those aspects of a vocational education and training system which:

- define occupational sector priorities;
- identify the competencies/skills required in each occupation;
- turn these occupational competencies into curricular profiles and teaching/training programmes reflecting the required standards.

With the disintegration of the Soviet Union in the 1990s, there was considerable uncertainty as to which skills and competencies should be produced. The situation was complicated by the absence of an overall economic plan (at central, regional or local level) that would have set out the priority economic sectors for development. Industry representatives or the new entrepreneurs lacked the essential methodology to identify their training needs based on business plans that could have informed the ministries or schools on the skills the labour market requires.

Much current labour market analysis is designed to identify the numbers of employees required with too little emphasis on the nature of the skills and competencies required. Even in countries where general labour market information is available, it may not be sufficiently analysed for vocational education and training purposes. Consequently, there are major information deficiencies with regard to labour market skill and training requirements and a growing problem of a mismatch between the needs of the emerging branches of the economy and the training offered by the current vocational education and training system. Because of the lack of information, vocational schools have had to predict which qualification profiles the companies may require. Therefore, schools frequently concentrate on theory and on delivering academic teaching on technical vocational education. Monitoring of the vocational education and training system, its institutional structures and performance, may provide the necessary mechanism for identifying the adaptations and improvements required.

What might be required from vocational education and training schools is:

- matching course provision to the workplace;
- matching student choice to the reality of the workplace;
- matching the above to market structures;
- providing a satisfactory learning experience for the student.

Education planning in the former system

In the former system, the State drew up economic plans, which defined the priority economic sectors for development. The central planning model provided the education planners with the necessary basis to plan resources, curriculum, qualifications, etc. However, it was common practice to reach an agreement on the curricula between the centre and the Republics and territories. State-run enterprises had an important role to play in the implementation of school-based vocational education and training systems. The "base enterprise" of the school decided which qualifications were required through economic and human resource planning and provided facilities, equipment and practical training opportunities. The "base enterprise" also decided on the investment of technical equipment of the vocational schools. A curriculum pre-defined in terms of content and lesson/hours was the main feature of the system. There was a tight and non-flexible 'input' control, while at the same time there was a widely different school-based 'output' quality system with a great arbitrariness in examinations which were held on the closed conditions of the schools.

Labour markets in the New Independent States and Mongolia face profound changes, many of which have consequences for vocational education and training. The conventional view is that workers need broader and better skills than in the past, as well as attitudes conducive to different concepts of production. It is necessary to join efforts in gathering information, in particular labour market information, its analysis and study. Ministries of education, labour and sector ministries have no tradition in sharing information. This is often due to a lack of co-ordination at policy level. Moreover, no country has currently one single institutional home that could co-ordinate the whole process of data collection and analysis for vocational education and training purposes.

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Historically the "All-Union Scientific Methodological Centre for Technical Vocational Training of Youth" existed which defined standards for the whole of the Soviet Union. The break-up of the Soviet Union meant that a whole new generation of researchers became involved in the definition of standards. They are mainly located in methodological centres at country level. As "educationalists" they are very much influenced by curricula, which have been adapted in all countries to changing labour market requirements. As result of the legacy of the Soviet Tayloristic division of labour, the existing standards are still dominated by technical routine tasks, and generally do not include the non-technical competencies, which European Union countries would define as key skills.

The list of specialisations and directions have been reduced in order to group the existing narrowly defined professions in more broad based clusters. Every country has made its own new "classificator", which is the official register of professions and branches. The number of entries on this list is much smaller than on the previous classificators. There is some involvement of employers in the definition of standards but their role needs to be defined more precisely and reflect the general employers' interests, to ensure a long-term commitment to the development of standards by employers representatives.

The following might additionally be required for the labour market:

- methods and cyclical approaches to labour market needs and training analysis at local regional and national level which should be consolidated by the establishment of appropriate institutions;
- in order to ensure permanent inputs on occupational and training needs, the active involvement of the social partners should be consolidated by appropriate tripartite organisations and fora at local, regional and national level;
- the capacities of schools should be developed to create responsive relations with local enterprises and the local community (via legislation, organisational development, entrepreneurial capacity and training).

However, standards need to start with the definition of employer specifications. In this way the learning requirements, and finally the requirements for assessment, should be defined.

In the search for a simplified approach it may be necessary to return to the fundamental purpose of a vocational education and training standard - to link educational provision to the needs of the labour market. To achieve this, three simple questions called the 'minimum components' need to be asked. For each question, a specification can be developed as shown below.

- *What does the student need to be able to do in employment?* = **The employment specification**
- *What does the student need to learn to be effective in employment?* = **The learning specification**
- *How will we know what the student has learned and is able to do in employment?* = **The assessment specification**

This minimum specification exists in the standards of all European Union member states. Each specification may have a different name, but it will exist. In the partner countries these specifications exist as well. The employment specification is usually called the 'occupational profile'. The learning specification is the curriculum or syllabus. The assessment specification is the examination schedule.

Social partners

Even if a social partner culture of intervention in vocational education and training policies is not yet to be found in partner countries, employers and trade unions do have a role to play in the emerging vocational education and training systems. That means that all activities have to be undertaken

which could make the social partners take part in the vocational education and training planning and implementation process. Their predominant task is to formulate employment needs (the first question) which have to be translated into learning objectives and outcomes (the second question). Educators will have to define and assess the learning outcomes (the third question) but it is useful to involve the social partners in this last part of vocational education and training standard implementation.

The clear separation of the employment specification may offer employers an incentive to become involved in the process. The employment specification, completely separated from the curriculum, is a valuable document in its own right since it describes what people are expected to do at work. This kind of information is needed and used by employers for all sorts of purposes – recruitment, selection, job design, training needs analysis etc. – so becomes part of the vocational education and training standards.

Educational standards

With more decentralised and autonomous vocational education and training systems, educational standards are required to guarantee that the quality of vocational education and training is maintained. Standards can offer a quality 'guarantee' to both learners and employers. Potentially, they provide a degree of reassurance to the learner concerning what they will learn and the employer a clear idea over what a potential employee knows and will be able to do. Many countries have initiated the preparation of vocational education and training standards to bring them in line with the new requirements of a market economy. However, it should be appreciated that many components of the previous vocational education and training systems still have value and work well. The development of standards should, therefore, build on what exists. Previous standards for larger scale, stable industrial sectors are still fit for use and might only require minor modification. Those standards directly related to the transition to the market economy are the highest priority.

Definition

Standards describe the work activities that are to be carried out within the framework of a specific occupation activity as well as the related knowledge, skills and abilities. Standards are compulsory for all those involved in vocational education and training. This is a minimum requirement. In practice, a vocational education and training 'standard' usually contains more requirements or specifications.

Source: European Training Foundation Manual on Standards in Vocational Education and Training - July 1999

It is important to accelerate the process of standards development to keep pace with rapid economic change. This can be achieved by building in local flexibility so that schools can respond rapidly to local employer needs or by developing additional modules, which can be added to current vocational education and training standards. Standards must be closely related to the realities of the market economy through coherent methods of labour market analysis and the involvement of the social partners. However, it has to be understood that employment requirements do not, in themselves, determine the responsibilities for those who support the achievement of the learning outcomes, as these are primarily educational decisions. In some European Union countries like the Netherlands, vocational education and training standards are generally the result of negotiation between the social partners, educational professionals, and educational authorities. The distinction

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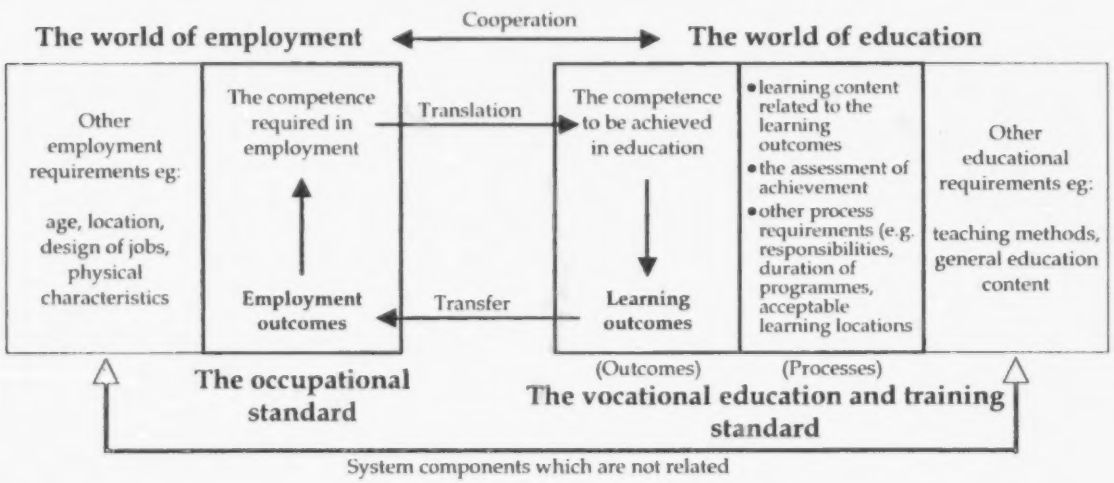
between the field of education on the one hand and the world of work on the other is important. The world of work is primarily interested in the level of competence that a person achieves in education and that can be transferred into employment. However, vocational education and training schools have only recently embarked on the reform of their curricula, and this process can only take place in the context of the development of a system of national standards and an occupational classification system. Moreover, it presupposes the involvement of social partners and specific vocational education and training research that is currently not present.

The traditional curriculum concept[6] regards vocational education and training as a rather closed system, with a systematic organisation of contents in subject form, and a teacher-centred approach and assessment of learning goals. This concept is undergoing change as modern curricula pay more attention to individual learning processes. Curricula reform therefore includes not only occupational and general qualifications, but also personal development and understanding of society, its values and democratic development. However, in most countries the enterprises are more interested in the competencies directly related to the employment requirements. The process of linking employment and education is displayed in the scheme below.

Scheme 1 Linking employment and education – components and processes


The world of employment
Cooperation
The world of education
Other employment requirements eg:
age, location, design of jobs, physical characteristics
The competence required in employment
Translation
The competence to be achieved in education
•learning content related to the learning outcomes
•the assessment of achievement
•other process requirements (e.g. responsibilities, duration of programmes, acceptable learning locations
Other educational requirements eg:
teaching methods, general education content
Employment outcomes
Transfer
Learning outcomes
(Outcomes)
(Processes)
The occupational standard
The vocational education and training standard
System components which are not related

Source: Working paper Bob Mansfield and Hermann Schmidt, European Training Foundation - 1999.

The primary link between employment and education is based on the requirements of employment expressed as 'employment outcomes'. These are defined as 'the competence required within employment'. These requirements need to be translated into educational outcomes, i.e. 'The competence that will be achieved in education' which will be expressed as learning outcomes.

This requires three methodologies:

1. a method for describing the action-centred employment outcomes in a consistent and structured way;
2. a method for translating these employment outcomes into learning outcomes;

6 A cross country analysis of curriculum reform in Vocational Education and Training in Central and Eastern Europe. European Training Foundation - 1998.

3. systems which incorporate parts of the learning process into the vocational education and training standard, a method for delivering the learning outcomes in particular locations, particularly in the workplace.

This process is the most effective way of achieving the desired result i.e. the learning outcomes (what the student learns) are transferred into the world of work (what the employee needs to be able to do).

Four conclusions can thus be made:

1. The link between occupational and educational standards requires some kind of national integrating mechanism to bring together occupational sector priorities and skill needs with curriculum content. They are touched on briefly here to illustrate longer term needs and individual country differences.
2. An institutional home (some kind of national assessment and examination service) is required for assessment and evaluation which can bring together the notion of competencies and learning attainment.
3. Institutional homes are required to both to involve social partners and to develop approaches to and tools for labour market information.
4. In the interim, vocational education and training schools need to develop capacity for analysing and responding to local training needs.

In **Germany** the *Bundesinstitut fur Berufsbildung (BIBB)* is the organisation which helps determine the curriculum in the workplace for all the training programmes in the dual system. The BIBB, in organising a revision of training programmes in a given sector, brings together the Länder, the employers and the unions in a coherent system towards corporate agreement.

In **France**, the *National Centre for Research on Qualifications (CEREQ)* simultaneously and systematically advises the ministries of employment and education on those occupational sector changes which require appropriate revision of their training programmes. Consequently *Vocational Consultative Commissions (CPC)* bring together representatives of employers, trade unions, government departments relevant to the particular sector, educationalists and representatives of the chambers of industry and commerce. The mission is to decide on all questions concerning technical and vocational qualifications.

In the **Netherlands and the UK** similar sector or lead bodies advise on necessary skill needs.

Research

Under the Soviet system and outside Moscow, research institutions were located in every republic, with a number of research "strongholds", for example in the Russian Federation, Belarus, Ukraine, and Uzbekistan, all of them with a qualified pool of researchers and a sound research culture in fundamental fields. Tasks were divided among the institutes and central guidance came from the Academy of Pedagogical Sciences and the Ministry of Education in Moscow. The research institutes mainly addressed the priorities as set by the authorities on a central level and reflected the

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traditional agenda of pedagogic, methodological and didactic aspects of education and child development. Driven by an ideology, authorities did not look for empirical data to support their policies. Vocational education and training research functioned as an instrument to support policy and ideology, i.e. it was both applied and political.

With the disintegration of the Soviet Union, the newly independent countries identified their new education priorities differently, and for a number of years chose to get to grips with new challenges individually. For both political and financial reasons, information exchange and links between universities and research institutes rapidly deteriorated, often against the will of the education stakeholders, researchers included. The absence of sufficient research capacity and, in particular, applied research, is a negative factor in the reform of the training systems. Among the roles of research in developing education is to provide decision makers and practitioners with reliable information and knowledge on the progress of reform and the overall condition of the education system. The research community may also serve as an important partner in the dialogue concerning the policy direction of ongoing reform.

As a result of financial problems, many research institutes have been closed or reorganised and most countries lack research institutions and the capacity to carry out applied and comparative research. The situation is most critical in **Georgia and Moldova**, where both vocational education and training research institutions, and vocational education and training researchers are lacking. In **Azerbaijan**, the Institute of the Problems of Education deals mostly with higher and general education. In **Armenia**, the centre of educational reform, based upon the Scientific Research Institute of Education, the Institute of Pedagogy, the Scientific-Methodological Unit and the Pedagogical Library, support the development of vocational education and training standards, new curricula, innovative methods of teaching and organisation of the academic process. However, financial constraints make it difficult if not impossible for the centre to carry out these tasks. The Centre can only co-ordinate the on-going efforts of its partners, mostly projects supported by western donors, such as an international project aiming at introducing elements of the dual system, and a World Bank project to develop the strategy of the vocational education and training reform.

In **Kyrgyzstan**, the education research institutes such as the Republican Research and Methodological Centre, the Institute of Problems of Higher Education and the Committee on Science and Higher Education, together with a few research departments of universities do not devote sufficient attention to initial and secondary vocational education and training. **Kazakhstan** is planning to establish an Institute for Higher Education and a Vocational Education and Training Institute to develop vocational education and training standards and curricula, and monitor their coherence with the adopted classification of occupations. There will also be methodological centres created to develop methodologies of renovating the content of vocational education.

The institutional and personnel heritage from the "old times" has helped Belarus, Russia, Uzbekistan and Ukraine to maintain and enhance their research potential. In **Uzbekistan** vocational education and training research is carried out at the Institute for Development of Secondary Specialised Vocational Education set up in 1998. The institute investigates the mechanism of interaction between education, science and companies in the vocational education and training system. It also develops new vocational education and training curricula and vocational education and training standards and provides methodological support. In Ukraine, the Institute of Pedagogy and Psychology of vocational education and training was opened in 1994 to deal specifically with fundamental and applied vocational education and training research, namely, to develop concepts, programmes, and forecasts of vocational education and training development in Ukraine. Furthermore, 12 laboratories, the Lvov Research Centre of Continuing Education, as well as 11 research and practical centres were set up. At the Ukrainian Ministry of Education a Research Methodological Centre for vocational education and training develops such practical issues as new

types of education institution, interaction between general education and vocational education and training, competencies of future employees, comparative pedagogical studies, etc. Some research outcomes have been published with the support of European Training Foundation through the National Observatory of Ukraine.

In **Belarus** three institutions deal with education research: the National Institute of Education (general education); the Research Institute of Higher Education (teaching humanities); and Republican Institute of Vocational Education opened in 1993 (vocational education and training). The Republican Institute of Vocational Education is the biggest vocational education and training research institute in Europe with 800 employees. It focuses on the methodology of vocational education and training, improvement of the content of vocational education and training, occupational and vocational standards for market occupations and quality control issues. A major research outcome is the concept of vocational education and training development in Belarus setting down conceptual foundations and structure of vocational standards, new approaches to curricula building, the legislative and legal base for vocational education and training and other relevant aspects. Research is also carried out by university departments and by the Academy of Education. The Academy determines priority research areas and co-ordinates research. The Research Institute of Labour of the Ministry of Labour also develops vocational education and training related issues.

Uzbekistan

The Institute for the Development Secondary Special Vocational Education was established in 1998 after a merge of the Institute for Vocational Education and Training and the Republican Institute for the Improvement of Professional Skills of Trainers in Vocational Training. The Ministry of Higher and Secondary Special Education of Uzbekistan supervises the institute, which carries out applied scientific research in the field of vocational education and training, related to economic reforms. Research has been carried out on the mechanism of interaction between education, science and enterprise within the vocational education and training system, assessment of professional skills training methods with a modular system and the application of computer technology in the management of vocational educational institution. In particular attention is given to the problems of the development of vocational education and training standards and to scientific and methodical support of vocational education. For newly established education institutions the institute developed educational standards for more than 100 occupations. The institute regularly organises seminars and conferences on standards together with the Centre of Secondary Special Professional Education.

Source: National Observatory Uzbekistan.

In the **Russian Federation**, the vocational education and training research capacity built under the Soviet system remained more or less in place and a network of research institutions exist on federal, regional and inter-regional level. The Ministry of Education and the Russian Academy of Education represent the federal level. The Academy is the central research institute in the Russian Federation. The academy has five regional branches (North, West, Central, Southern and Volga branches) and 19 research institutes. The Research Institute of Higher Education for Post Secondary Professional Education, the Institute of the Development of Vocational Education and Training, the Research-Methodological Centre of Post Secondary Professional Education and the Urals State Professional and Pedagogical University (Ekaterinburg) are all affiliated with the Ministry of Education.

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Russian Federation

The Ministry of Education has adopted a new ideology centring on the research and methodological support of the system of education. A comprehensive programme of research, methodological, material, technical and information support has been developed. The programme has 4 subprogrammes:

- research and methodological support of the system of education (content of education at all levels, quality of education, economics of education, etc);
- research and methodological support of the educational industry (textbooks, students' health, material and technical support of the academic process);
- development and implementation of the regional policies in the sphere of education;
- information support of the system of education.

All research organisations and higher educational institutions affiliated with the Ministry of Education and RAE will take part in implementing the programme. The estimated results envisage concrete research and methodological materials for the system of education. A total of 240-250 billion roubles have been committed for the programme (one fourth of the Ministry's research budget). Vocational education and training is part of the first sub-programme with a budget of about 70 million roubles.

With the reform process, research has another function and should focus on the vocational education and training requirements and process. In particular comparative research could provide benchmarks for the future direction of vocational education and training. However, even where institutes are in place, research activities are hampered by a lack of reliable up-to-date statistical educational data. This results from the fact that certain information in the old structure was not of relevance and was therefore not collected. Countries often provide estimates but no hard figures. The lack of data, in particular the identification of labour market needs, hampers educational planning. Although researchers are academically highly qualified, they lack analytical experience in specific fields and are often specialised in a rather narrow domain. Researchers should develop multidisciplinary capacities and focus as well on the link between vocational education and training and the labour market. All countries have a shortage of experts who combine vocational education and training and labour market knowledge. Support is needed in the development of statistics as a primary source for further research and analyses (employment services, national statistical agencies, and statistical agencies of the Ministries of Education). In particular in the field of statistics, the divergences between the different data selection methods reduce the accuracy of cross-country comparability. It is important for the countries to apply international standards in statistics like ISCED 97, or ILO definitions. Moreover, multi-disciplinary research and comparative research should be encouraged in all countries. Research is particularly important in the fields of (a) the financing of education and training, (b) current and future qualification needs (c) continuing vocational education and training and human resource development in enterprises.

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Annex 1
Donor co-operation

In examining issues of donor co-operation it is important to point out that:

- Donor co-ordination is not easy. Donors have quite different ideologies, funding philosophies, administrative and funding procedures. Vocational education and training is a complex sector which is challenging even for experts to comprehend. Vocational education and training has a low profile for politicians and is also a wide field for co-operation given that it comprises the labour market and responses to it, issues of decentralisation and vocational education and training, school autonomy together with the democratisation of decision making. Vocational education and training has mixture of ministries responsible for it including education, labour, economy, finance, etc. It encompasses many actors including the social partners. There are complex issues of qualifications and certification. Vocational education and training overlaps with general education, social policy and technological change and makes course provision in key areas such as equality / equity / entrepreneurial capacity and privatisation.

In defining the possibilities of co-operation with government, individual donors are looking for:

- clear policy and strategy from government;
- clear priorities;
- the organisation and technical means to carry them out;
- the political will to implement reform;
- components which fit the funding philosophy and means of individual donors.

In defining the possibilities of co-operation among themselves donors are looking for:

- an understanding of government policy and priorities;
- the usefulness of the exchange of information;
- possibilities of concrete co-operation between government and donors in the near and medium future.

It is possible to bring these elements together. In Moldova in 2000, a Tacis vocational education and training project produced, together with the government, a clear policy and strategy via a 'green paper' and ongoing legislation together with curricula, labour market and school management initiatives and some institution building.

As a consequence, the World Bank, UNDP, the Soros Foundation and bilateral donors felt able to support the development outcomes of a clear policy in the form of a white paper. It is important to point out that this involves a bidding process where donors extend existing programmes and projects. The World Bank is able to extend an existing commitment to help create a national assessment and examination centre for general education to include vocational education and training with teacher training. The Soros Foundation is able to include vocational education and training school directors in its more general education leadership-training programme. UNDP can

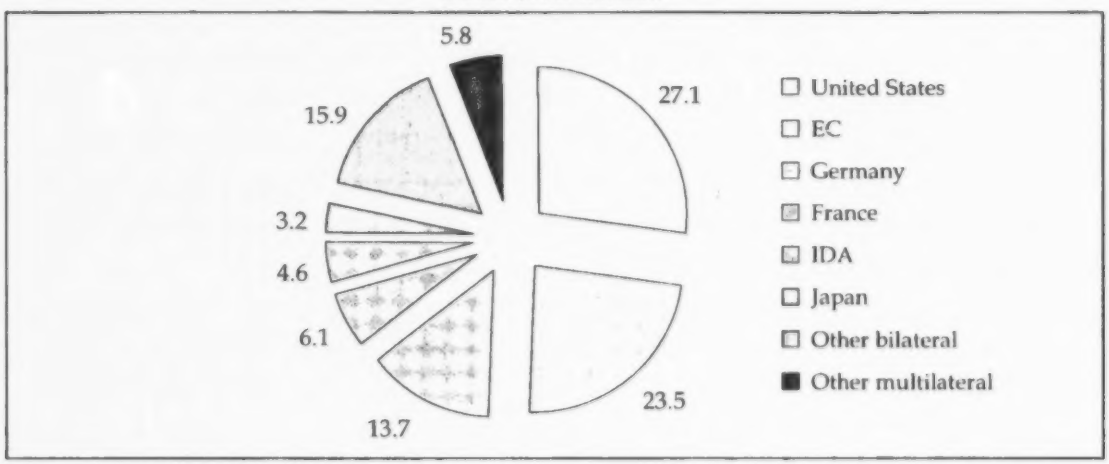
support the concept of small and medium-sized enterprise development and entrepreneurship as part of vocational education and training course provision. *L'Alliance Française* can fund study visits to examine the mechanics of the payroll tax for apprenticeship and continuing training.

Concluding: Donor co-operation is possible but it has to be managed

After the disintegration of the Soviet Union, the need to support the New Independent States was immediately recognised internationally, and existing partnership programmes from international donor organisations were extended to these countries. Most member countries of the OECD offer bilateral assistance to Eastern Europe and Central Asia. The bilateral aid accounts for about 75% of the total technical assistance. The biggest bilateral donors are the USA, Germany, France, Japan and Sweden. Only a few organisations, such as the European Bank for Reconstruction and Development (EBRD) were especially founded for channelling aid to the countries of the former eastern bloc. Support programmes can be categorised according to conditionality and source. Grants, i.e. money which does not have to be paid back by the recipients, is often called Technical Assistance, while loans (credits) to countries are labelled as Financial Assistance . Both categories are provided by individual countries (*bilateral aid*) and by inter-State organisations (*multilateral aid*). Most countries also provide grants for training, which is channelled through different organisations.

(source: chapter 4.5. Funding sources: management handbook for Tacis National Observatories 1999)

Main sources of technical assistance to Central and Eastern Europe, the New Independent States and Mongolia, 1996. Total $ 7.0 billion



Source: OECD, 1998

Since 1991 the EU has been supporting the New Independent States and Mongolia in the reform process through the Tacis Programme. The Tacis Programme is one of the instruments developed by the EU to forge closer economic and political links with the New Independent States and Mongolia. It operates within the wider context of a deepening and evolving relationship between the EU and the New Independent States, enshrined in Partnership and Co-operation Agreements which commit both sides to a new level of political, economic and cultural dialogue.

The initial activities in the field of vocational education and training within the Tacis Programme concentrated on:

- staff development on a wider scale, including training for policy-makers, education administrators at all levels, representatives from employers' and employees' organisations, school managers, curriculum authors and teachers;
- the drafting of policy papers on the main directions of vocational education and training reforms and the adoption, in most countries of the region, of new laws regulating specific aspects of the work of vocational education institutions;
- the revision of existing and the development of new curricula with the aim of providing training for a range of rather broad-based occupations, partly within new sectors of economic activity, such as banking, finance, etc.;
- the upgrading of school equipment.

The Council Regulation (No 99/2000) of 29 December 1999 concerning the provision of assistance to the partner countries in Eastern Europe and central Asia explicitly mentioned the development of human resources. In fact the Regulation refers to education and training as having significance for reform and restructuring. Transfer of expertise and know-how, including training, is given importance (article 5). Moreover, the strategy papers on EU assistance programmes for some of the New Independent States refer to the development of human resources.

Co-ordination among donors contributes to an effective use of the funds, and enhances the impact on the training system as a whole. A strong active involvement of the national, regional and local authorities is needed to avoid the problem of support initiatives being isolated from a systemic reform of the training system. The transfer of the experience is therefore a crucial element in every pilot project and reform initiative. Organisations involved in donor co-operation should try to maximise synergy and minimise duplication with other international and bi-lateral donors through parallel funding and bringing donors and countries together. Intensive co-operation has also taken place with international organisations working in the same field e.g. OECD, UNESCO, Council of Europe and the World Bank as well as with other EU agencies responsible for health and safety at work, the environment, and drug monitoring. It is not very likely that a systemic reform can be achieved in the near future. Additional funding, including funding from the international donor community and specific vocational education and training programmes are needed to support the countries in their attempts to reform the systems and bring them into line with international standards. It should be understood that without well-trained staff, economic development of the countries will not progress very much and social problems will not be solved. International co-operation follows political patterns. These patterns are influenced by the general consensus in the donor countries as well as the constant evaluation of the impact of development assistance and are driven by the donor aspiration to improve the impact of aid. These patterns are mirrored in donor priorities and expressed in their funding policies. Before submitting a proposal to a donor, it is worth reading their mission statements, which can be found on the respective internet sites. Project proposals should, whenever possible, refer to these priorities and explain how the projects will address these topics.

Presently, most donors concentrate on five issues:

1. gender and the enhancement of women's participation in development;
2. protection of natural resources and the environment and sustainable development;
3. poverty alleviation;
4. democratisation and governance;
5. public-private partnership.

Examples of vocational education and training reform programmes

In Russia, the most relevant Tacis programmes in the field of vocational education and training are those on Educational Management (started January 1998), DELPHI I (started December 1998) and the Managers Training Programme (MTP). DELPHI focuses on the articulation of the demand side for education and to decrease the gap between the education sector and society. The component on vocational education and training will support regional innovation and the designing of a new methodology for the development of standards. For further regional dissemination of this pilot project a proposal under the Bistro programme is being prepared.

In co-operation with Austria, Belgium, Finland, the Netherlands, Sweden and the ILO, the Foundation is implementing the second phase (1999-2002) of the pilot project on "Vocational Education and Training Reform in North West Russia". This project develops an innovation model for regional vocational education and training reform both at school and at administrative levels. Particular emphasis is put on links with enterprises, further training of regional administrators, continuing training and reinforcement of vocational teacher training. The pilot project on "Vocational Education and Training Reform in North West Russia" is the most substantial international project aiming at supporting the vocational education and training sector in the Russian Federation at the moment. Co-operation among different donors has been crucial for achieving a critical mass for a major project to support vocational education and training reform. It also highlighted the fact that there is no single concept for vocational education and training reform. The involvement of experts from various EU vocational education and training systems demonstrated to the Russian participants that they have to make choices for a vocational education and training system that fits into their regional economy and labour market. The approach has been used as a regional model for the preparation of a new World Bank loan for education.

In Uzbekistan, a € 1 million Tacis project entitled "Assistance to the Reform of Vocational Education" started in October 1999. Its main objective is to assist in the development of new curricula for the professional colleges. Although the project concentrates on the preparation of curricula in only six sectors, the whole project is organised in such a way that it should result in nationally acceptable methodologies for vocational education and training curriculum reform, based on labour market analysis. The professional colleges are a new type of compulsory secondary professional education, which will replace existing PTUs and Technikums. With the introduction of this new type of school hundreds of new curricula need to be developed. In Kyrgyzstan a €1 million Tacis project entitled "Support to the training and retraining of unemployed and disadvantaged groups through the establishment of a training fund" is expected to start in May 2000. Its main objective is to establish a functioning Training Fund as a separate fund within the Employment Fund. The Training Fund will become the single instrument for all State-funded vocational training and retraining operations for the unemployed. It will also cover group training, individual training (such as placements in enterprises) and support for setting up businesses. Funds for training will be provided through training providers via a competitive bidding process thus promoting more competition between existing and new training providers.

The €1 million two year Tacis project entitled "Assistance to the Reform of the Moldavian System of Vocational Education and Training" has just been completed. The project provided the Department of Secondary Vocational Education at the Ministry of Education, Youth and Sport with a comprehensive outline for the development of institutional capacity to implement vocational education and training reform within the framework of the Law on Education. This has resulted in the definition of a general strategic mid-term policy in vocational training and the development of financing mechanisms to decrease dependence on the State budget. It also resulted in the adaptation of existing and development of new curricula and the upgrading of the skills of teachers and ministry staff involved in the management of vocational training.

By improving the quality of vocational education and training, the project has contributed improving the human capital base and hence will benefit the labour market and the economy as a whole.

The National Observatories, as established by the European Training Foundation, are in a position to provide information and, through their analysis, contribute to the development of a reformist policy. This would also help the countries to set guidelines and priorities for the international donor community when they seek to help the countries. It should also encourage the main donors like the World Bank, Asian Development Bank and the EU Tacis Programme, but also donor countries to share better information and to disseminate the results concerning support programmes.

National Observatories

The National Observatory project covers all countries except Tajikistan. The project was launched by the European Training Foundation in 1996 and has been funded by the Tacis Inter-state programme. National Observatories have been established in close co-operation with the national authorities. The Observatories enhance the ability of partner countries to define their training needs and priorities and formulate appropriate vocational education and training reform policies and programmes. The National Observatory network has two common goals: firstly, to provide information and expertise about reform in their national vocational education and training systems; secondly to provide their national authorities with examples of good practice in vocational education and training from other countries, in particular from EU Member States and EU programmes. Each Observatory, however, has developed its own objectives, activities, products and services according to specific national needs. National Observatories have produced vocational education and training stocktaking reports, key indicators on vocational training and the labour market and specific in-depth studies. Observatories have also organised national and regional vocational education and training and key indicator seminars and have provided advice on reform priorities to their national authorities.

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Annex 2
Diagrams and key data of the countries vocational education and training systems

Belarus

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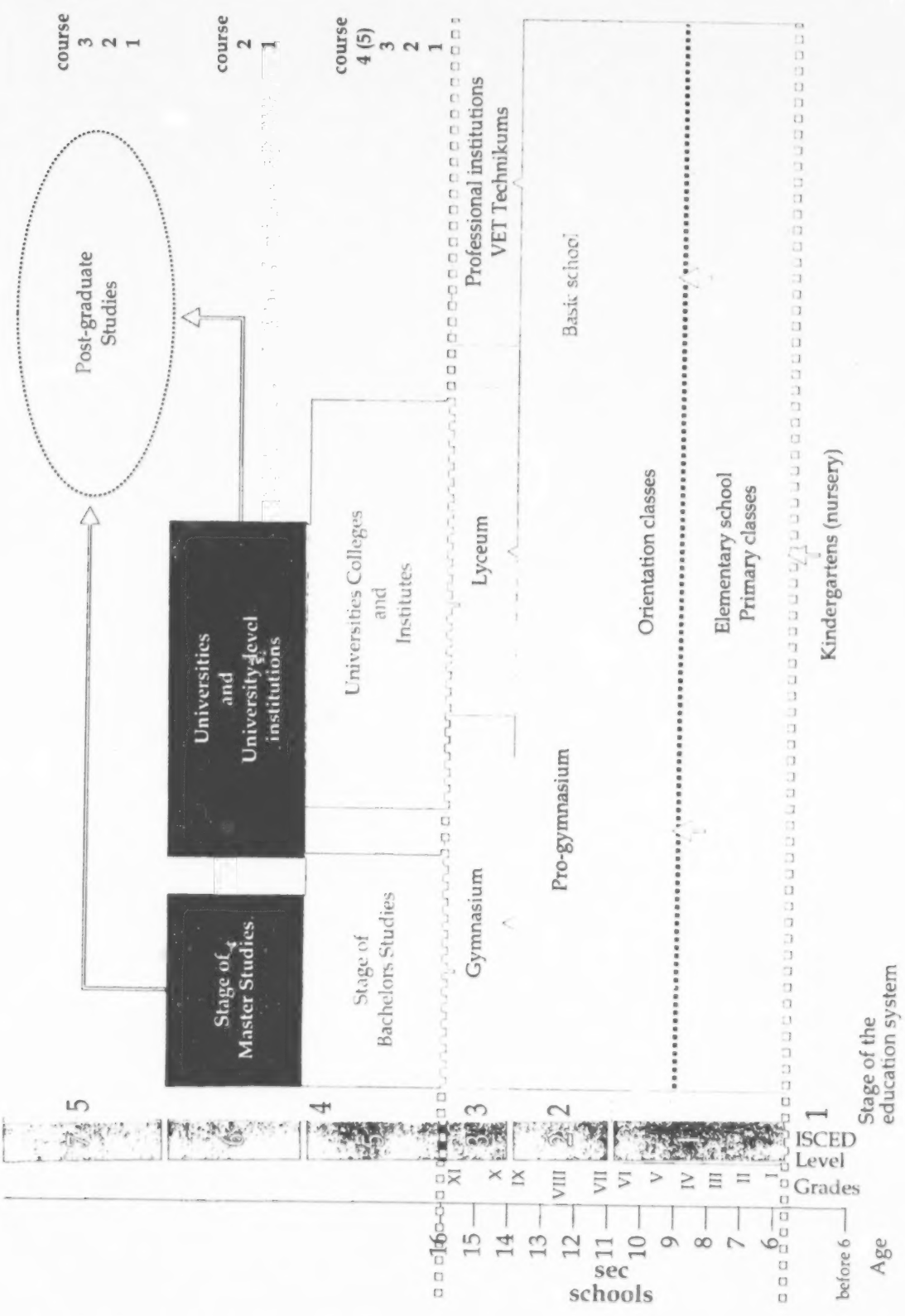
Georgia



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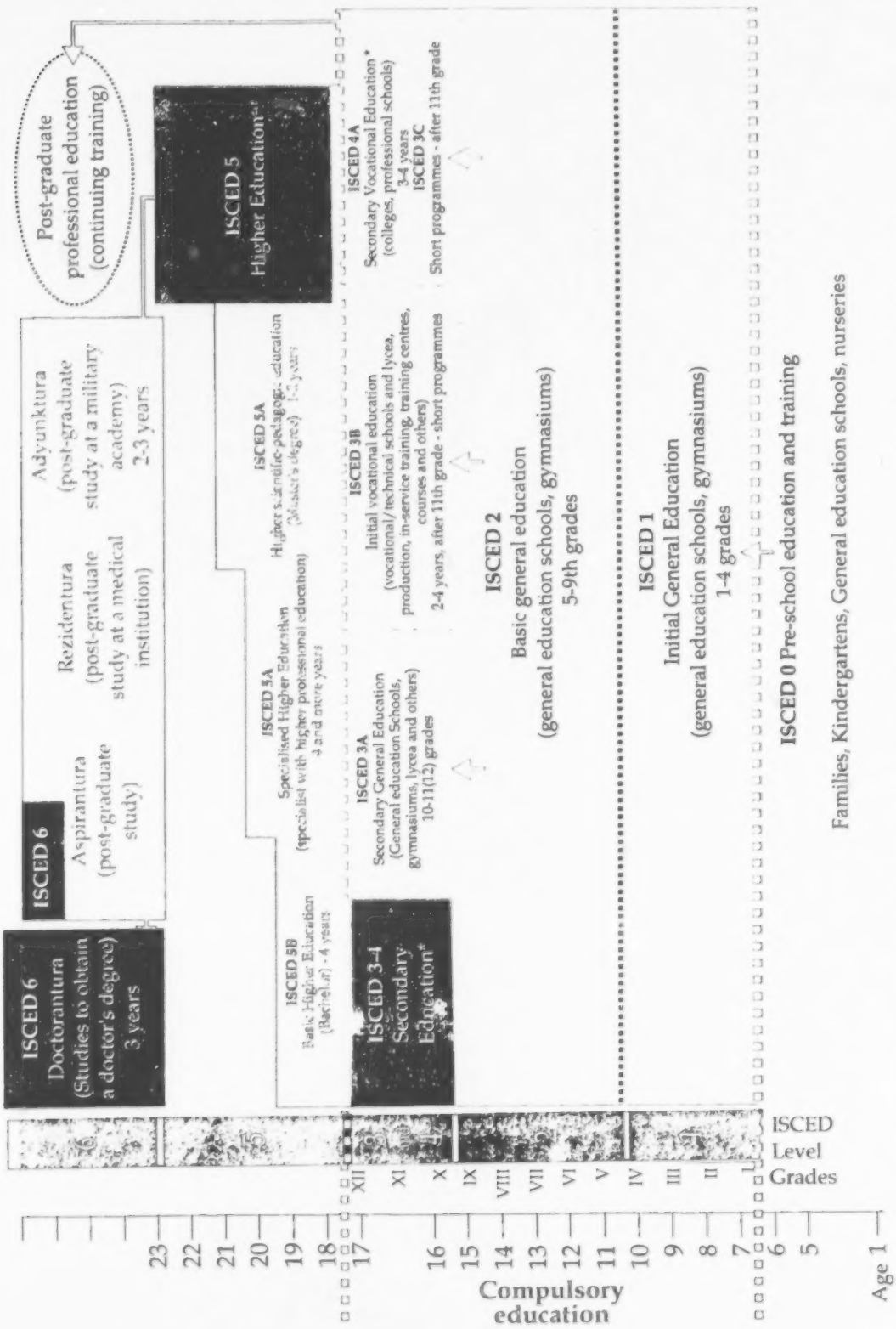
Kazakhstan


Post-graduate professional education (continuing training)
ISCED 5 Higher Education*
ISCED 6
Aspirantura (post-graduate study)
Rezidentura (post-graduate study at a medical institution)
Adyunktura (post-graduate study at a military academy) 2-3 years
ISCED 6 Doctorantura (Studies to obtain a doctor's degree) 3 years
ISCED 5B Basic Higher Education (Bachelor) - 4 years
ISCED 5A Specialised Higher Education (specialist with higher professional education) 4 and more years
ISCED 5A Higher scientific-pedagogic education (Master's degree) 1-2 years
ISCED 3-4 Secondary Education*
ISCED 3A Secondary General Education (General education Schools, gymnasiums, lycea and others) 10-11(12) grades
ISCED 3B Initial vocational education (vocational/technical schools and lycea, production, in-service training, training centres, courses and others) 2-4 years, after 11th grade - short programmes
ISCED 4A Secondary Vocational Education* (colleges, professional schools) 3-4 years
ISCED 3C Short programmes - after 11th grade
ISCED 2 Basic general education (general education schools, gymnasiums) 5-9th grades
ISCED 1 Initial General Education (general education schools, gymnasiums) 1-4 grades
ISCED 0 Pre-school education and training
Families, Kindergartens, General education schools, nurseries
ISCED Level Grades
Compulsory education
Age

* According to the new "Law of Education" of 1999, the system of Secondary Education in Kazakhstan includes not only secondary general and initial professional education (as previously), but also the system of Post-Secondary education (ISCED 4A) which was previously called Secondary Special Education.

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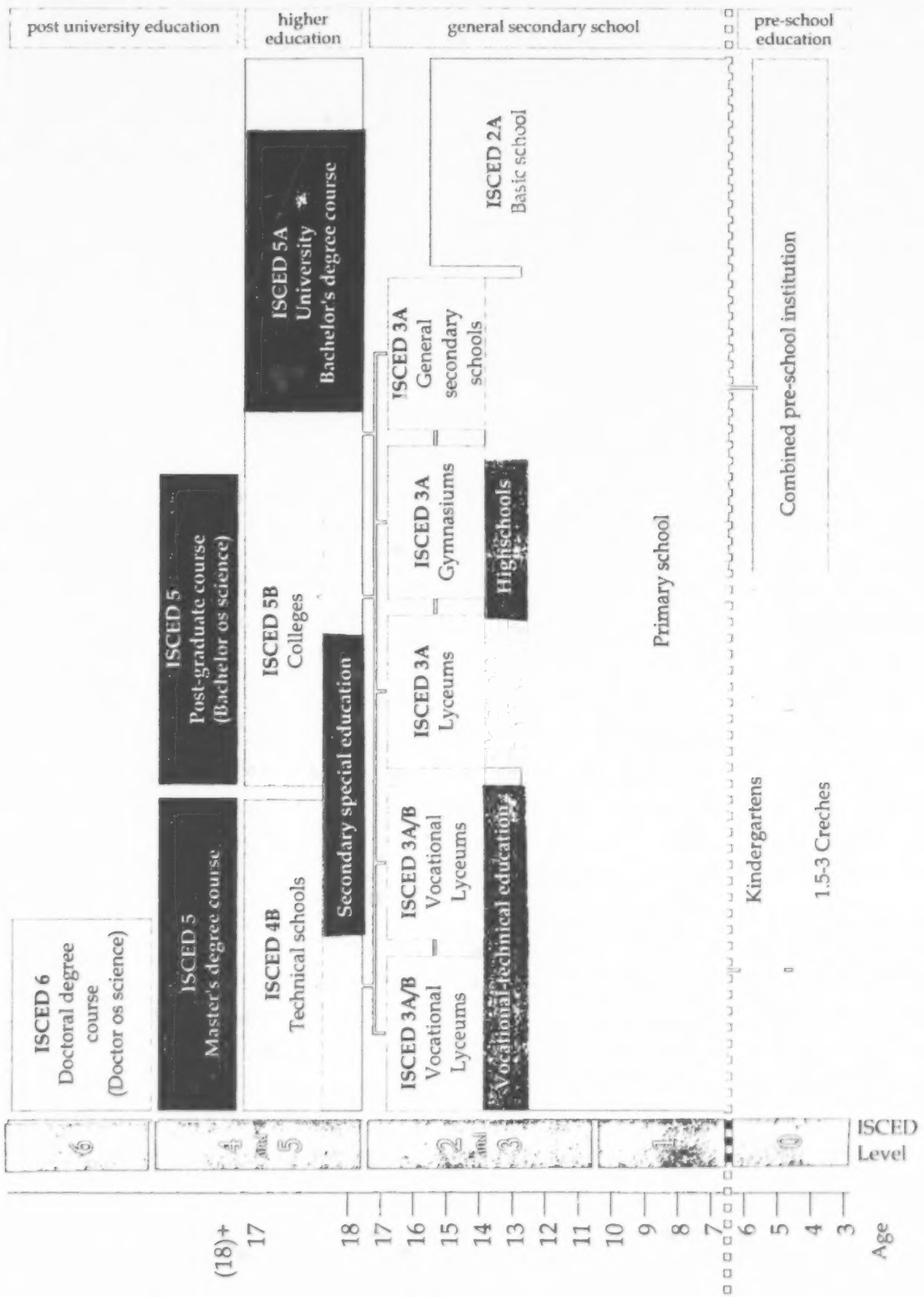
Kyrgyzstan



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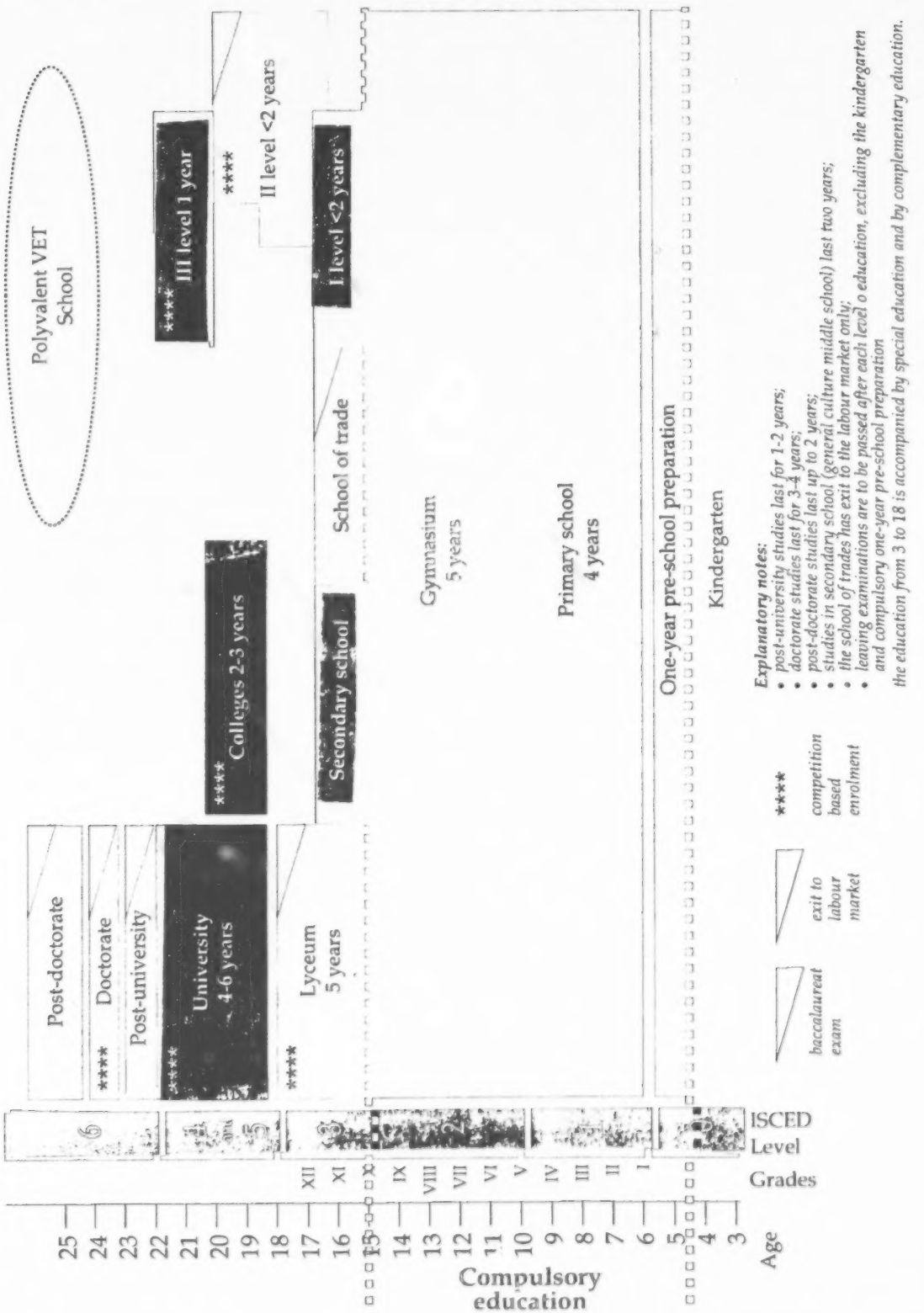
Moldova


Polyvalent VET School
III level 1 year
II level <2 years
I level <2 years
Colleges 2-3 years
Secondary school
School of trade
Lyceum 5 years
University 4-6 years
Post-university
Doctorate
Post-doctorate
Gymnasium 5 years
Primary school 4 years
One-year pre-school preparation
Kindergarten
baccalaureat exam
exit to labour market
**** competition based enrolment
ISCED Level
Grades
Age
Compulsory education
Explanatory notes:
• post-university studies last for 1-2 years;
• doctorate studies last for 3-4 years;
• post-doctorate studies last up to 2 years;
• studies in secondary school (general culture middle school) last two years;
• the school of trades has exit to the labour market only;
• leaving examinations are to be passed after each level o education, excluding the kindergarten and compulsory one-year pre-school preparation
the education from 3 to 18 is accompanied by special education and by complementary education.

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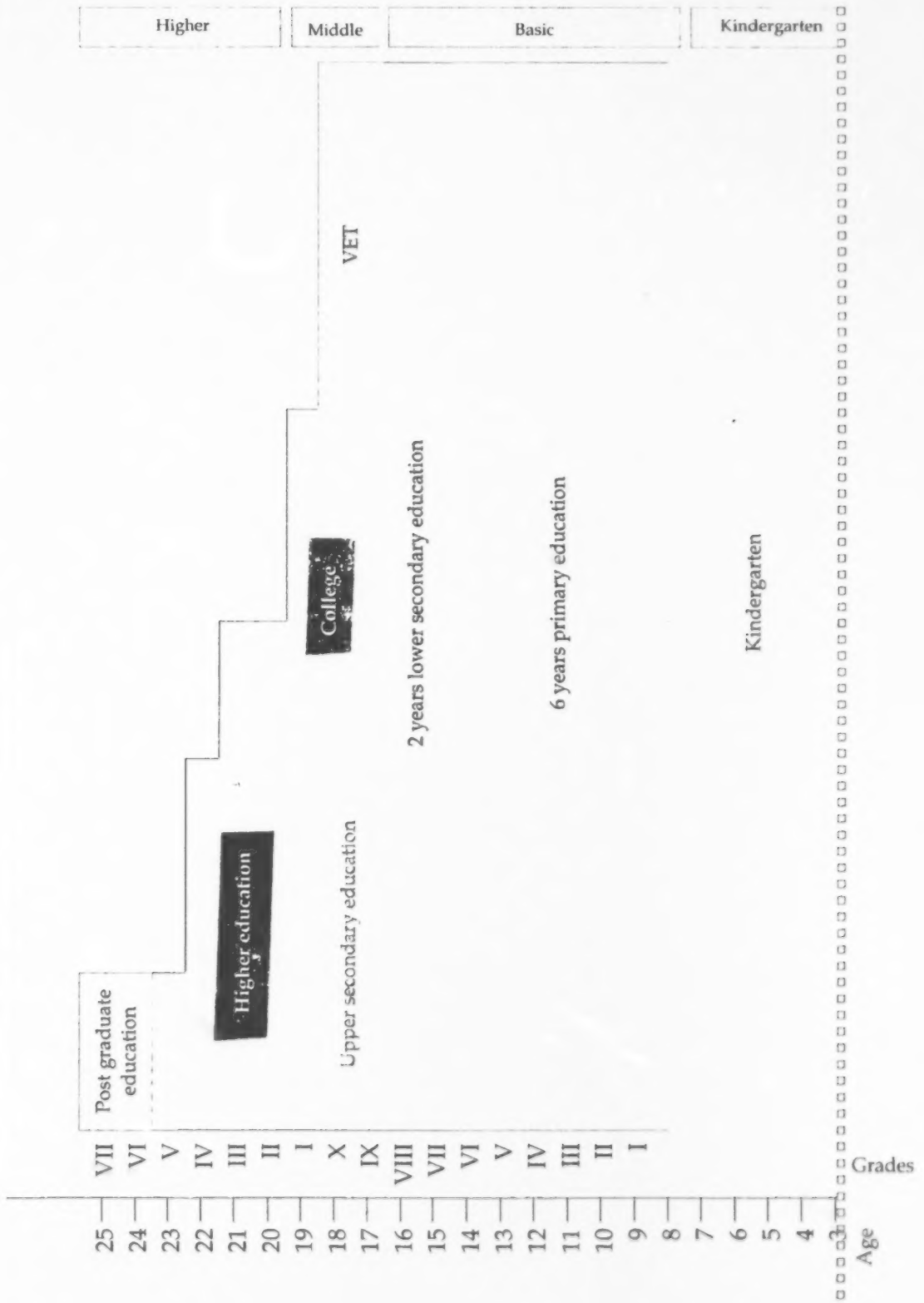
Mongolia


Higher
Middle
Basic
Kindergarten
VET
College
Higher education
Post graduate education
Upper secondary education
2 years lower secondary education
6 years primary education
Kindergarten
Grades
Age
VII VI V IV III II I X IX VIII VII VI V IV III II I
25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3

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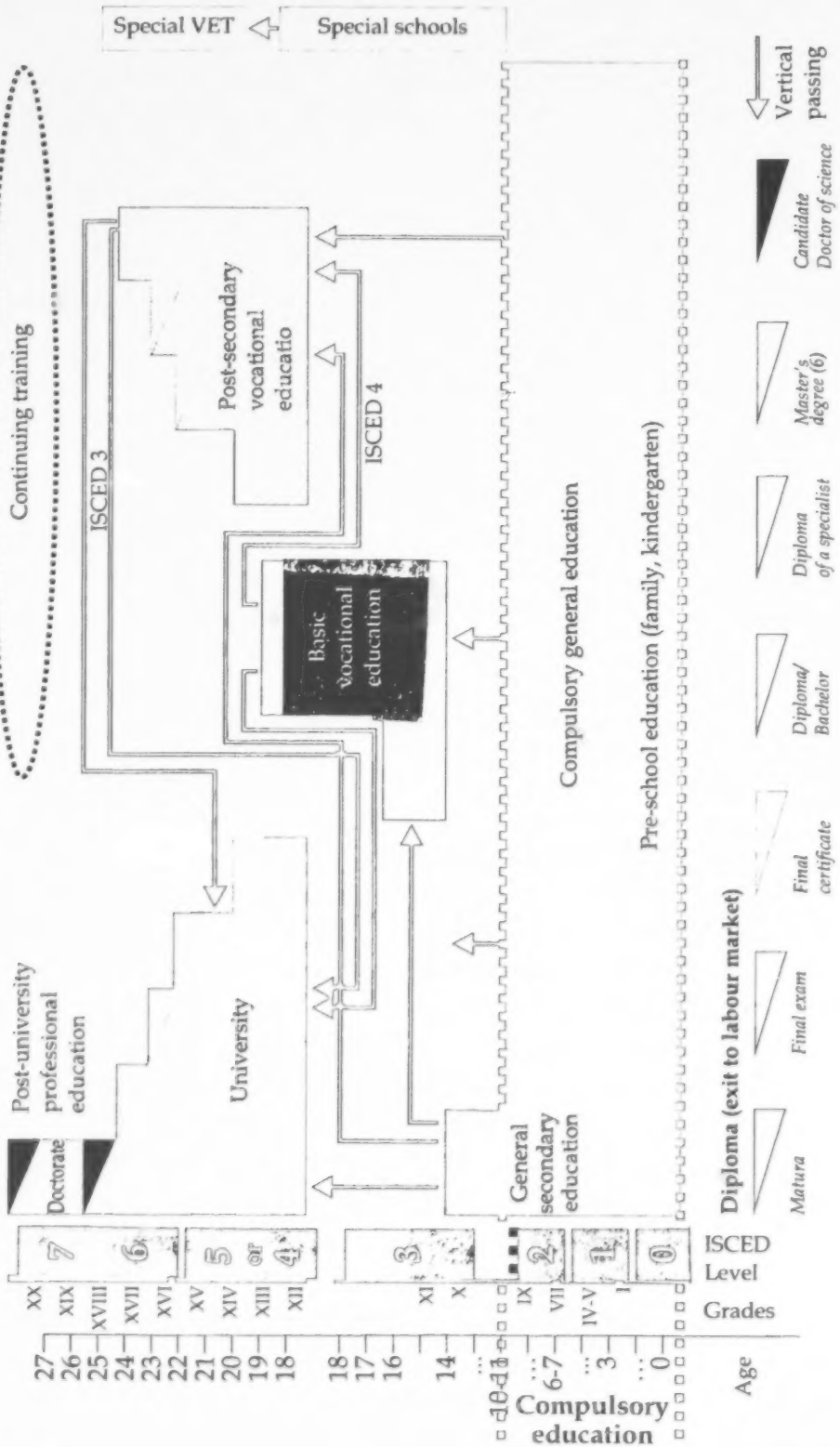
Russian Federation



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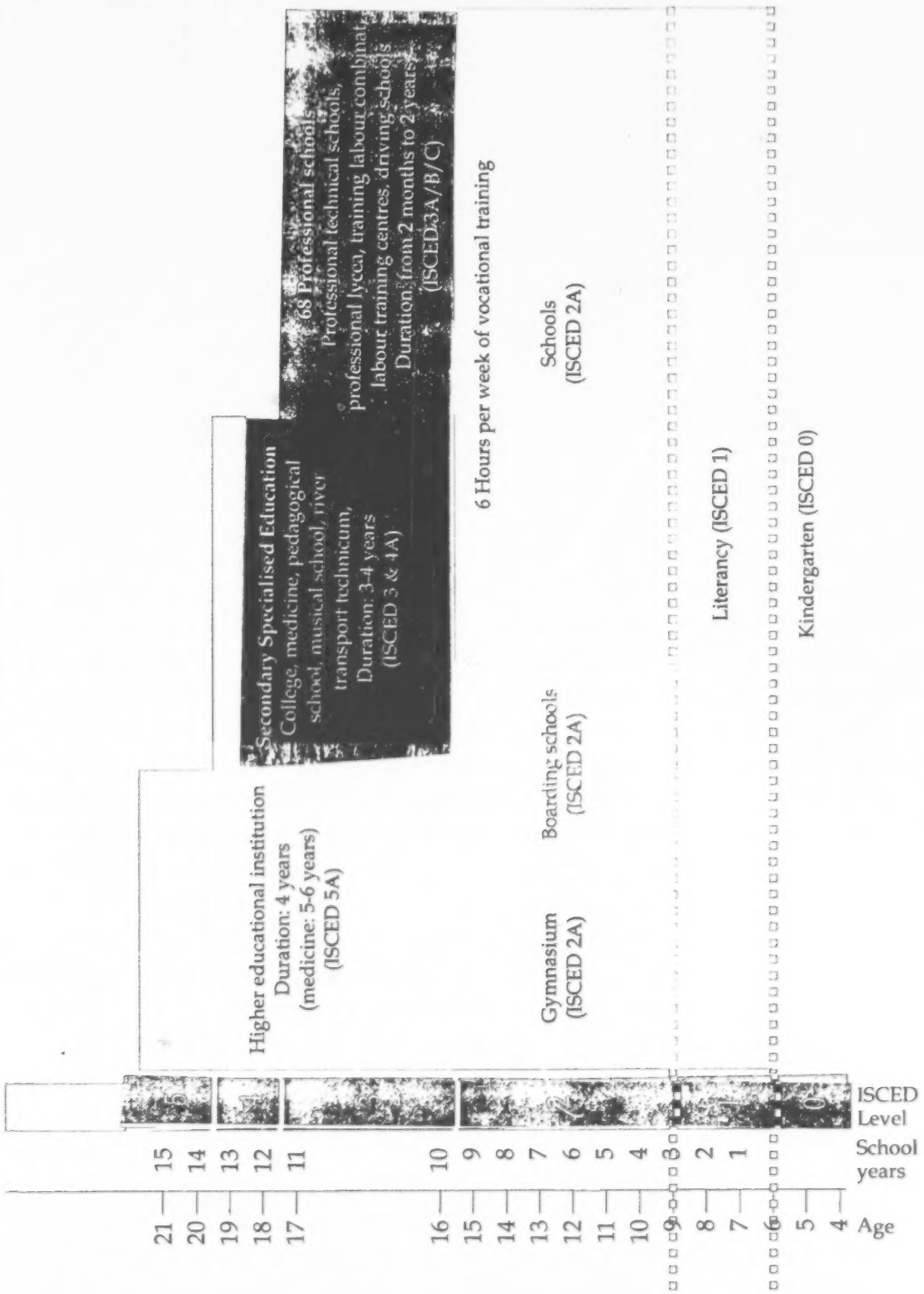
Turkmenistan



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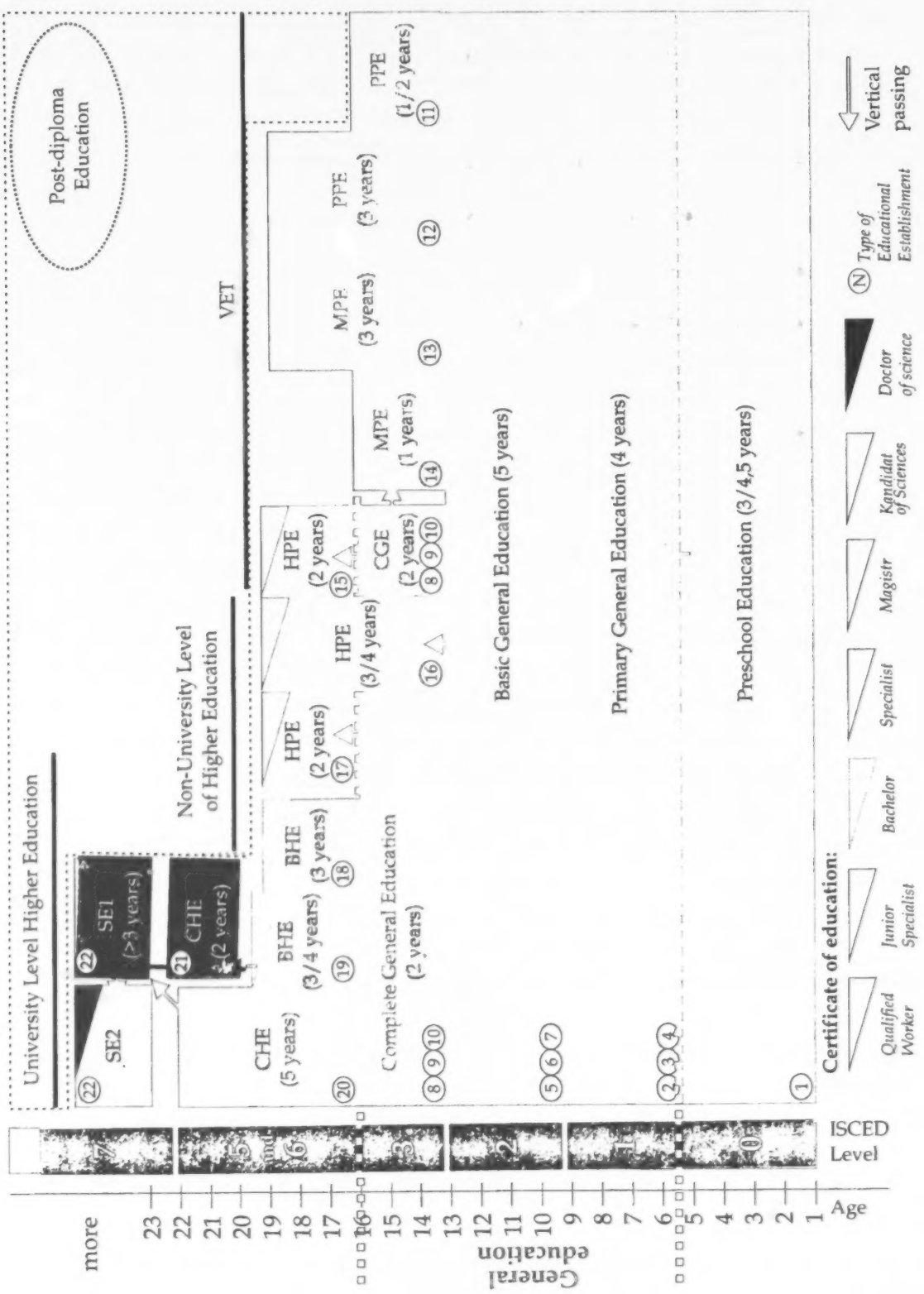
Ukraine



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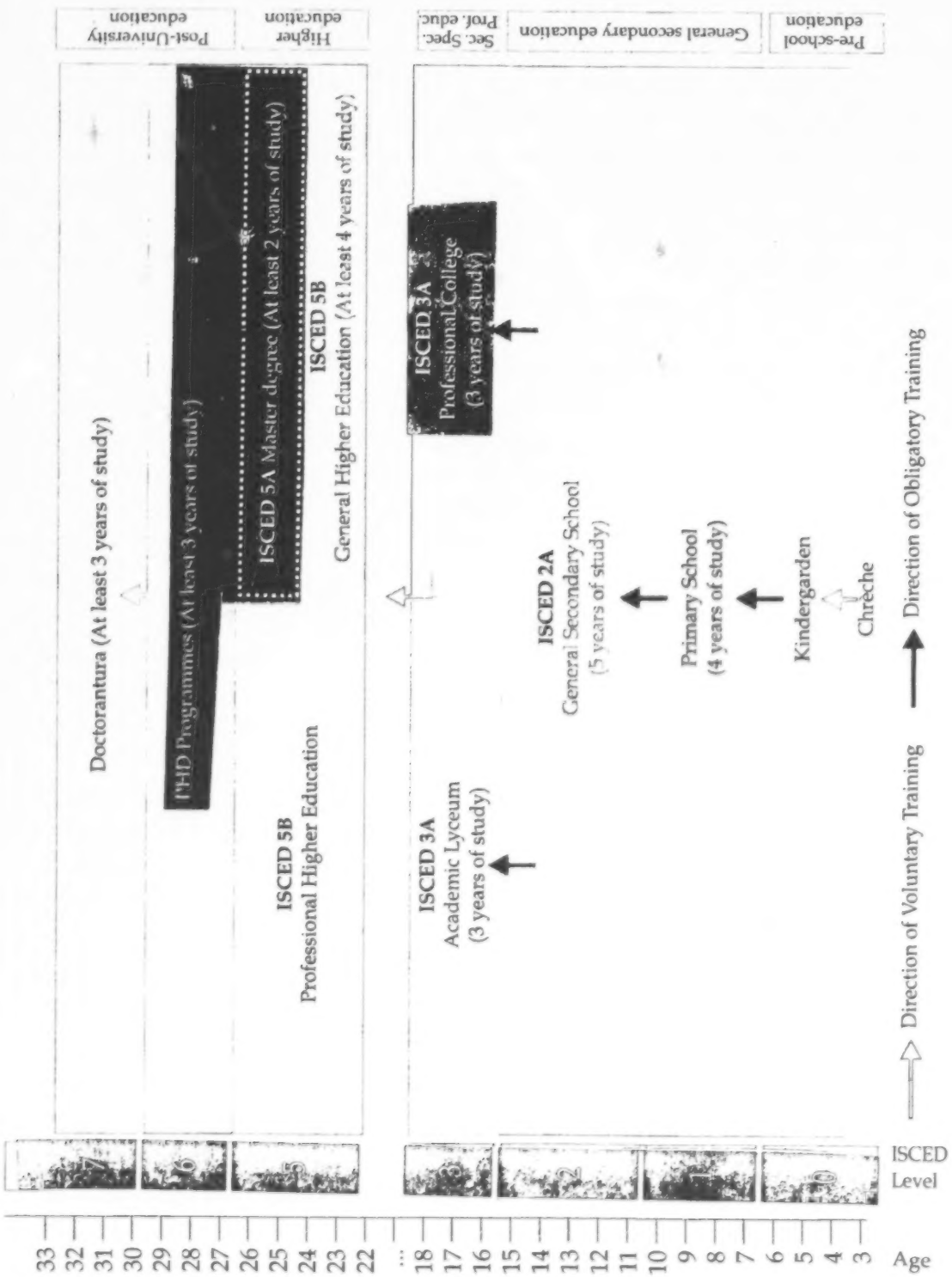
Uzbekistan


Post-University education
Higher education
Sec. Spec. Prof. educ.
General secondary education
Pre-school education
Doctorantura (At least 3 years of study)
PHD Programmes (At least 3 years of study)
ISCED 5A Master degree (At least 2 years of study)
ISCED 5B
General Higher Education (At least 4 years of study)
ISCED 5B
Professional Higher Education
ISCED 3A
Professional College
(3 years of study)
ISCED 3A
Academic Lyceum
(3 years of study)
ISCED 2A
General Secondary School
(5 years of study)
Primary School
(4 years of study)
Kindergarden
Chrèche
Direction of Voluntary Training
Direction of Obligatory Training
ISCED Level
Age
33 32 31 30 29 28 27 26 25 24 23 22 ... 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3

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Annex 3

Year	VET	Country	Armenia*	Azerbaijan	Belarus	Georgia	Kazakhstan	Kyrgyzstan	Moldova	Mongolia	Russian Federation	Turkmenistan	Ukraine	Uzbekistan
1993	Initial	Number of Schools	84		239	139	na	115			4273		1256	463
		Number of Students	21029		134200	28200	na	47326			1741.6		647200	214300
		Number of Teachers	987		11303	na**	na	5073			154.4		60300	17263
		Student/Teacher	21.3		11.9			9.3			11.3		10.7	12.4
		Student/School	250.3		561.5	202.9		411.5			408/1		515.3	462.9
	Middle	Number of Schools	69		148	25	254	50			2614		740	246
		Number of Students	25200		134200	16432	222900	40922			1994		740000	250952
		Number of Teachers	na		10860	5127	14000	3339			116		51200	16989
		Student/Teacher			12.4	3.2	15.9	12.3			17.18		14.5	14.8
		Student/School	365.2		906.8	657.3	877.6	818.4			762/1		1000	1020.1
	Total	Number of Schools	153		387	164		165	78	38	6887		1996	709
		Number of Students	46229		268400	44632		88248	37000	8317	3735.6		1387200	465252
		Number of Teachers			22163	na**		8412	4300	652	270.4		111500	34252
		Student/Teacher			12.1			10.5	8.6	12.8	13.8		12.4	13.6
		Student/School	302.1		693.5	272.1		534.8	474.4	218.9	542/1		695	656.2
1994	Initial	Number of Schools	80		241	127	na	115			4203		1185	457
		Number of Students	16100		138700	21390	na	42112			1699.1		629400	227900
		Number of Teachers	1025		11557	na**	na	4503			154.1		57300	18359
		Student/Teacher	15.7		12			9.4			11		11	12.4
		Student/School	201.2		575.5	168.4		366.2			404/1		531.1	498.7
	Middle	Number of Schools	72		148	26	258	51			2665		746	248
		Number of Students	22394		129500	15325	215000	38689			1871		644900	240130
		Number of Teachers	3204		10750	5200	14300	3022			112.4		49600	16256
		Student/Teacher	6.9		12	2.9	15	12.8			16.6		13	14.8
		Student/School	311		875	589.4	833.3	758.6			702/1		864.5	968.3
	Total	Number of Schools	152		389	153		166	78	37	6868		1931	705
		Number of Students	38494		268200	36715		80801	35000	7480	3570.1		1274300	468030
		Number of Teachers	4229		29917	na**		7525	4200	583	266.5		106900	34615
		Student/Teacher	9.1		9			10.7	8.3	12.8	13.4		11.9	13.5
		Student/School	253.3		689.5	240		486.8	448.7	202.2	520/1		659.9	663.9

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Year	VET	Country	Armenia *	Azerbaijan	Belarus	Georgia	Kazakhstan	Kyrgyzstan	Moldova	Mongolia	Russian Federation	Turkmenistan	Ukraine	Uzbekistan
1995	Initial	Number of Schools	83		253	122	404	113			4166		1177	439
		Number of Students	11040		138100	19089	154300	40762			1689.5		572800	202147
		Number of Teachers	na		11810	3751	na	4130			150.8		56300	16284
		Student/Teacher	-		11.7	5.1		9.9			11.2		10.2	12.4
		Student/School	133		545.8	156.5	381.9	360.7			406/1		486.7	460.5
	Middle	Number of Schools	72		148	26	262	52			2707		782	247
		Number of Students	18782		125000	15325	200400	32751			1923		617600	210044
		Number of Teachers	2972		10660	4272	13700	2913			110.7		52500	15453
		Student/Teacher	6.3		11.7	3.6	14.6	11.2			17.3		11.8	13.6
		Student/School	260.8		844.6	589.4	764.9	629.8			710/1		789.8	850.4
	Total	Number of Schools	155		401	148	666	165	78	35	6873		1959	686
		Number of Students	29822		263100	34414	354700	73513	34800	7987	3612.5		1190400	412191
		Number of Teachers	-		22470	8023		7043	3500	495	261.5		108800	31737
		Student/Teacher	-		11.7	4.3		10.4	9.9	16.1	13.8		10.9	13
		Student/School	192.4		656.1	232.5	532.6	445.5	446.2	228.2	526/1		607.7	600.9
1996	Initial	Number of Schools	71		252	110	339	113			4114		1161	437
		Number of Students	7328		130100	20957	133100	32005			1670.4		552100	221006
		Number of Teachers	na		11531	3645	na	4240			150.6		54500	16294
		Student/Teacher			11.3	5.7		7.5			11		10.1	13.6
		Student/School	103.2		516.3	190.5	392.6	283.2			406/1		475.5	505.7
	Middle	Number of Schools	72		149	30	264	54			2729		790	252
		Number of Students	24235		122400	14162	177700	32374			1976		594900	194842
		Number of Teachers	2495		10840	4200	13000	2610			113.1		52900	15795
		Student/Teacher	9.7		11.3	3.4	13.7	12.4			17.5		11.2	12.3
		Student/School	336.6		821.5	472.1	673.1	599.5			724/1		753	773.2
	Total	Number of Schools	143		401	140	603	167	81	35	6843		1951	689
		Number of Students	31563		252500	35119	310800	64379	34000	11308	3646.4		1147000	415848
		Number of Teachers			22371	7845		6850	3400	668	263.7		107400	32089
		Student/Teacher			11.3	4.5		9.4	10	16.9	13.8		10.7	13
		Student/School	220.7		629.7	250.9	515.4	385.5	419.8	323.1	533/1		587.9	603.6

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Year	VET	Country	Armenia *	Azerbaijan	Belarus	Georgia	Kazakhstan	Kyrgyzstan	Moldova	Mongolia	Russian Federation	Turkmenistan	Ukraine	Uzbekistan
1997	Initial	Number of Schools	71		248	108	307	113			4050		1146	442
		Number of Students	6032		125600	21198	111000	26488			1667.4		573800	219922
		Number of Teachers	na		11372	3376	na	3371			156.6		51600	16478
		Student/Teacher			11	6.3		7.9			10.6		11.1	13.3
		Student/School	85		506.5	196.3	361.6	234.4			412/1		500.7	497.6
	Middle	Number of Schools	75		150	30	219	55			2740		660	258
		Number of Students	24306		125200	13925	146200	27544			2011		526300	197161
		Number of Teachers	3047		11100	4131	11700	2416			115		47200	16009
		Student/Teacher	8		11.3	3.4	12.5	11.4			17.5		11.2	12.3
		Student/School	324.1		834.7	464.2	667.6	500.8			734/1		797.4	764.2
	Total	Number of Schools	146		398	138	526	168	80	38	6790		1806	700
		Number of Students	30338		250800	35123	257200	54032	32700	12320	3678.4		1100100	417083
		Number of Teachers			22472	7507		5787	3200	767	271.6		98800	32487
		Student/Teacher			11.2	4.7		9.3	10.2	16.1	13.5		11.1	12.8
		Student/School	207.8		630.2	254.5	489	321.6	408.8	324.2	542/1		609.1	595.8
1998	Initial	Number of Schools	67		249	119	319	115			3954		995	444
		Number of Students	4192		125600	21385	94900	26416			1675.8		526500	227393
		Number of Teachers	na		11209	3054	na	2942			156		49100	16906
		Student/Teacher			11.2	7		9			10.7		10.7	13.5
		Student/School	62.6		504.4	179.7	297.5	229.7			424/1		529.1	512.1
	Middle	Number of Schools	78		157	32	248	53			2767		653	259
		Number of Students	27177		138400	12963	141300	27180			2052		503600	224793
		Number of Teachers	4608		12400	3125	11400	2384			123.1		46300	20433
		Student/Teacher	5.9		11.2	4.1	12.4	11.4			16.6		10.9	11
		Student/School	348.4		881.5	405.1	569.8	512.8			742/1		771 ?	867.9
	Total	Number of Schools	145		406	151	567	168	87	38	6721		1648	703
		Number of Students	31369		258100	34348	236200	53596	32500	11650	3727.8		1030100	452186
		Number of Teachers			22609	6179		5326	3100	626	279.1		95400	37339
		Student/Teacher			11.4	5.6		10.1	10.5	18.6	13.4		10.8	12.1
		Student/School	216.3		635.7	227.5	416.6	319	373.6	306.6	555/1		625.1	643.2

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Year	VET	Country	Armenia *	Azerbaijan	Belarus	Georgia	Kazakhstan	Kyrgyzstan	Moldova	Mongolia	Russian Federation	Turkmenistan	Ukraine	Uzbekistan
1999	Initial	Number of Schools	63		249	123	268	113			3911		989	450
		Number of Students	6016		130700	18208	87400	26130			1694.1		527200	236853
		Number of Teachers	1089		11167	2200	na	2952			157.4		54500	17007
		Student/Teacher	5.5		11.7	8.3		8.9			10.8		9.7	13.9
		Student/School	95.5		524.9	148	326.1	231.2			433/1		533.1	526.3
	Middle	Number of Schools	77		157	33	274	53			2792		658	295
		Number of Students	28048		138400	12963	142600	26781			2125		503700	254773
		Number of Teachers	4844		12400	2526	11000	2218			126		46400	19079
		Student/Teacher	5.8		11.2	5.1	13	12.1			16.9		10.9	13.4
		Student/School	364.3		881.5	392.8	520.4	505.3			761/1		765.5	863.6
	Total	Number of Schools	140		406	156	542	166	77		6703		1647	745
		Number of Students	34064		269100	31171	230000	52911	31000		3819.1		1030100	491626
		Number of Teachers	5933		23567	4726		5170	2800		283.4		100900	36086
		Student/Teacher	5.7		11.4	6.6		10.2	11.1		13.5		10.2	13.6
		Student/School	243.3		662.8	199.8	424.4	318.7	402.6		570/1		625.4	659.9
2000	Initial	Number of Schools			249						3934			374
		Number of Students			135100						1724.7			232825
		Number of Teachers			11292						160.4			14920
		Student/Teacher			12						10.8			15.6
		Student/School			542.6						438/1			622.5
	Middle	Number of Schools			157									374
		Number of Students			144300									305040
		Number of Teachers			12300									23573
		Student/Teacher			11.7									12.9
		Student/School			919.1									815.6
	Total	Number of Schools			406				77			108		748
		Number of Students			279400				21000			17861		537865
		Number of Teachers			23592				2160			4001		38493
		Student/Teacher			11.8				9.7			4.5		14
		Student/School			688.2				272.7			165.4		719.1

** - Source of the data is the National Service Statistics*
*** - Data for 1993 and 1994 are lost in the fire*
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